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GRANITE COUNTY

COMPREHENSIVE PLAN

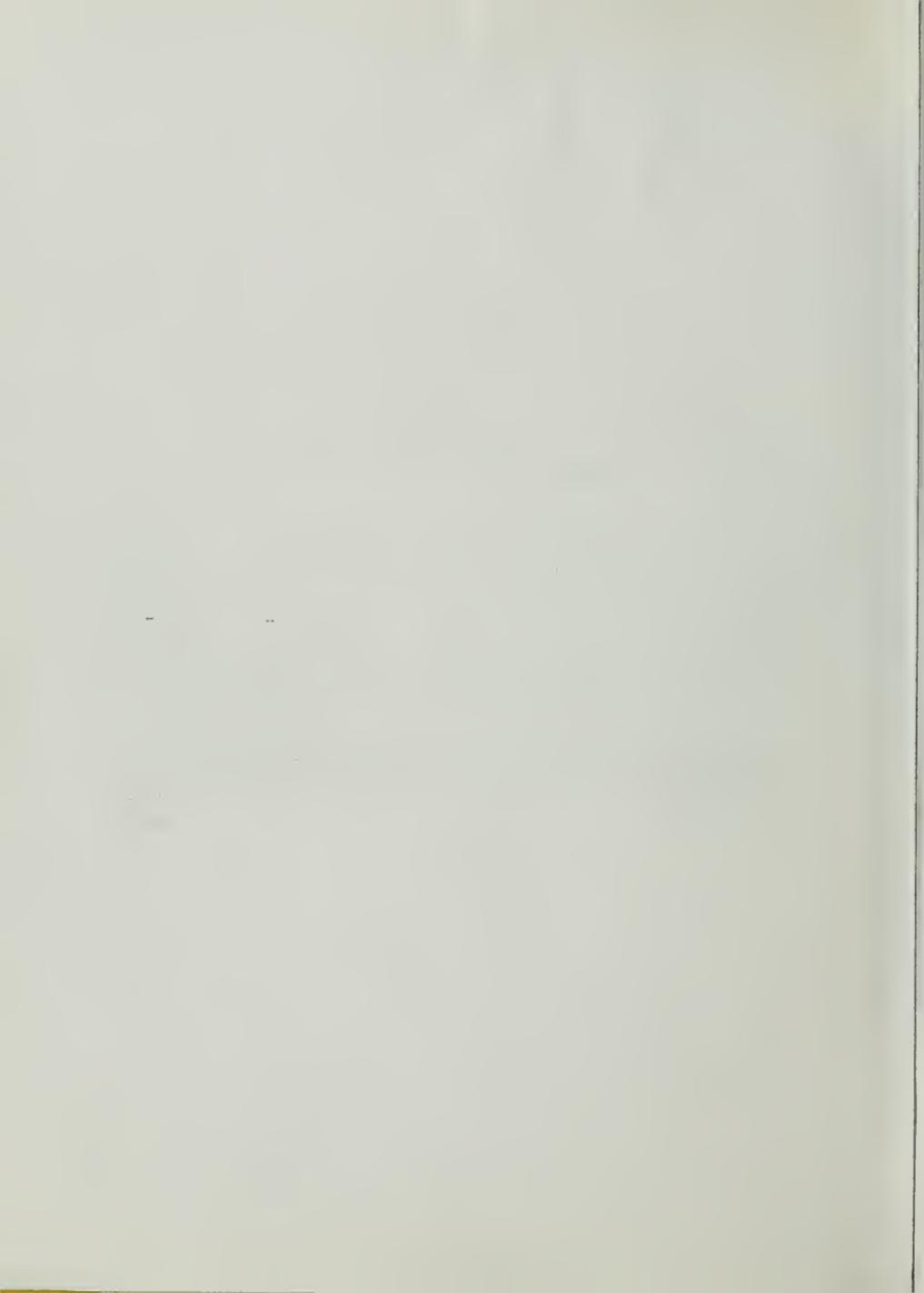
prepared for
GRANITE COUNTY PLANNING BOARD

by
Sylvan L. Lutey, Planning Director
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Urban Planning Grant Number - CPA-MT-08-00-0062 (702-C)

Prepared under contract for the Department of Planning and Economic Development, State of Montana, and the Deer Lodge - Granite Areawide Planning Organization.

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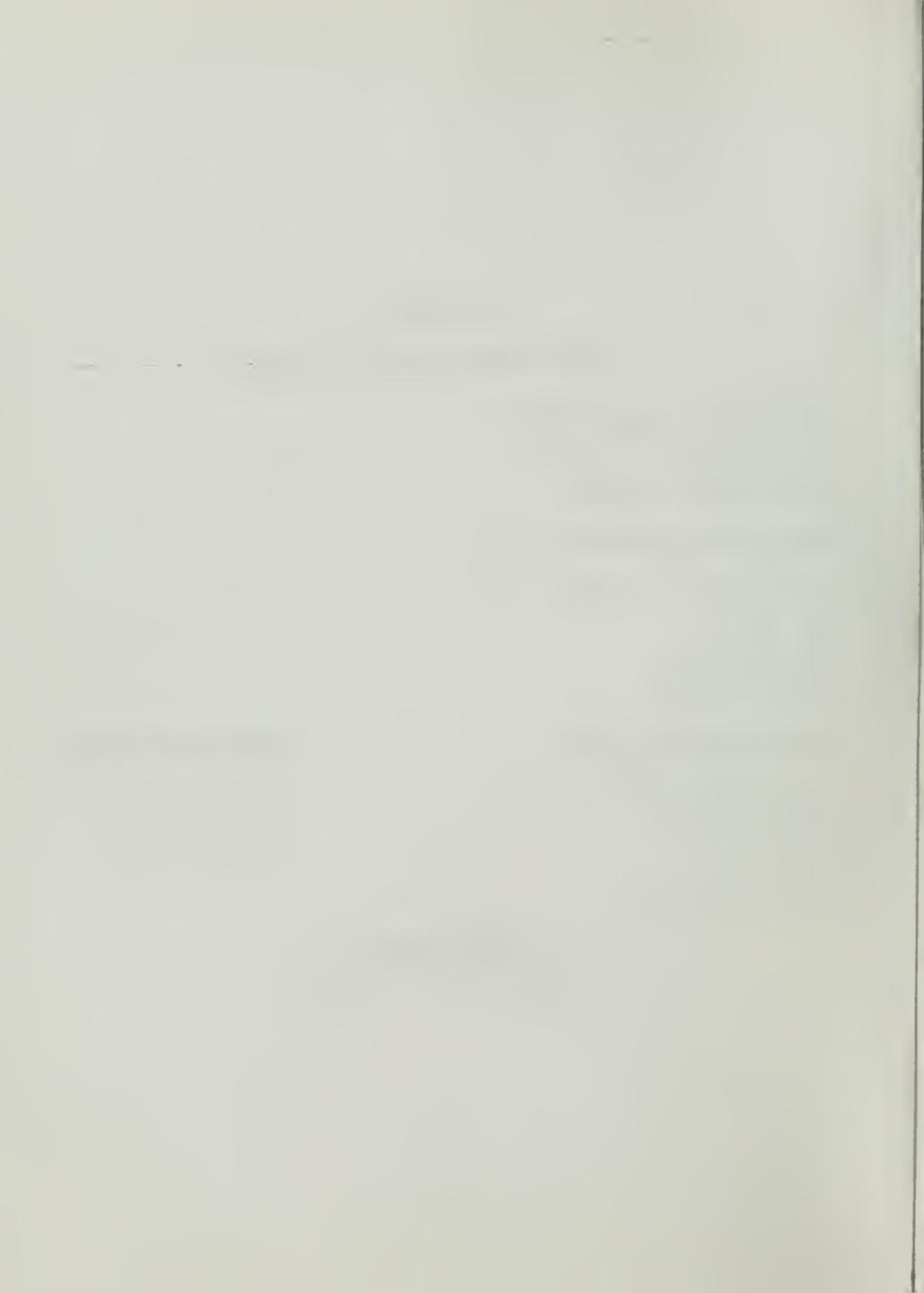
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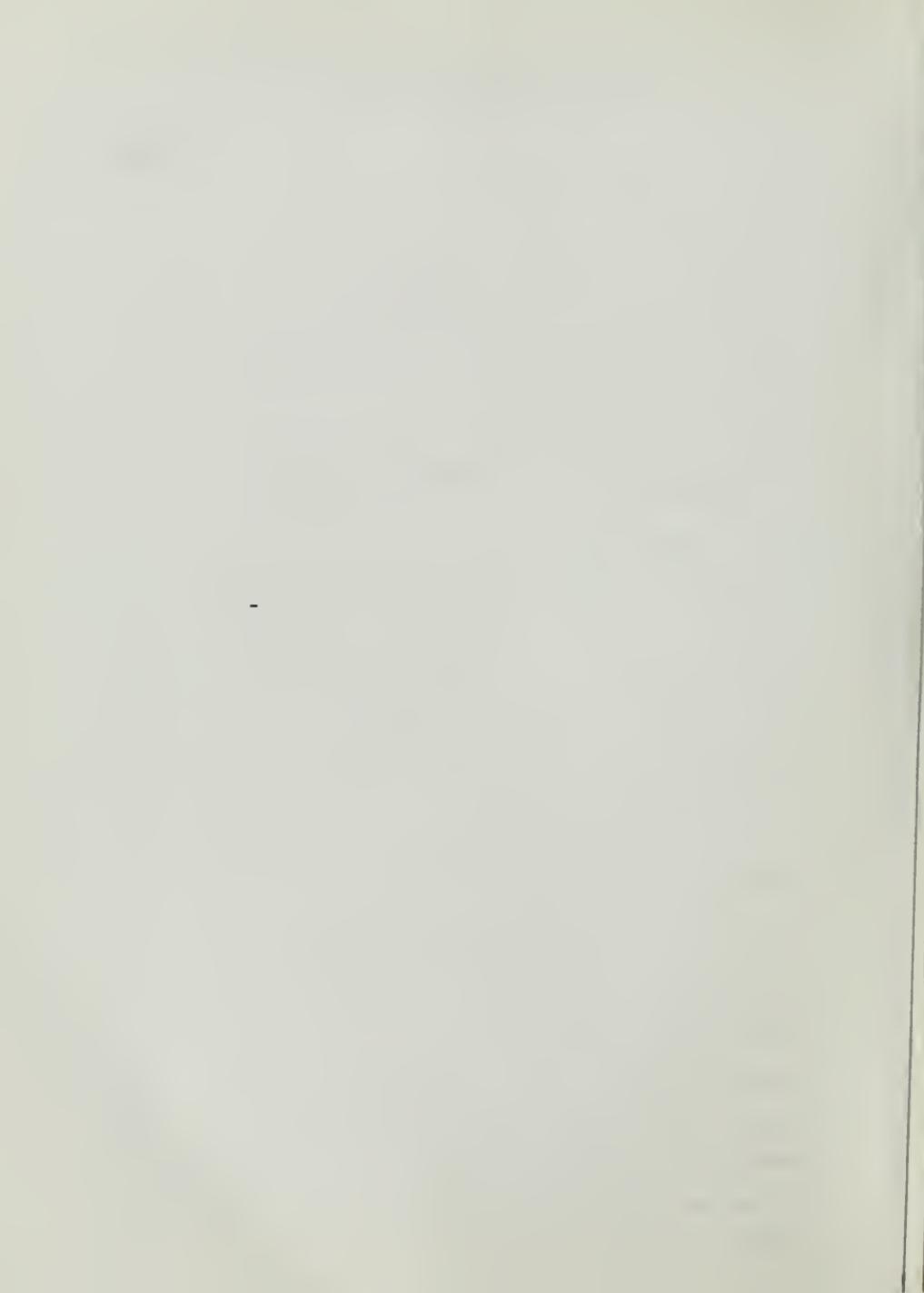
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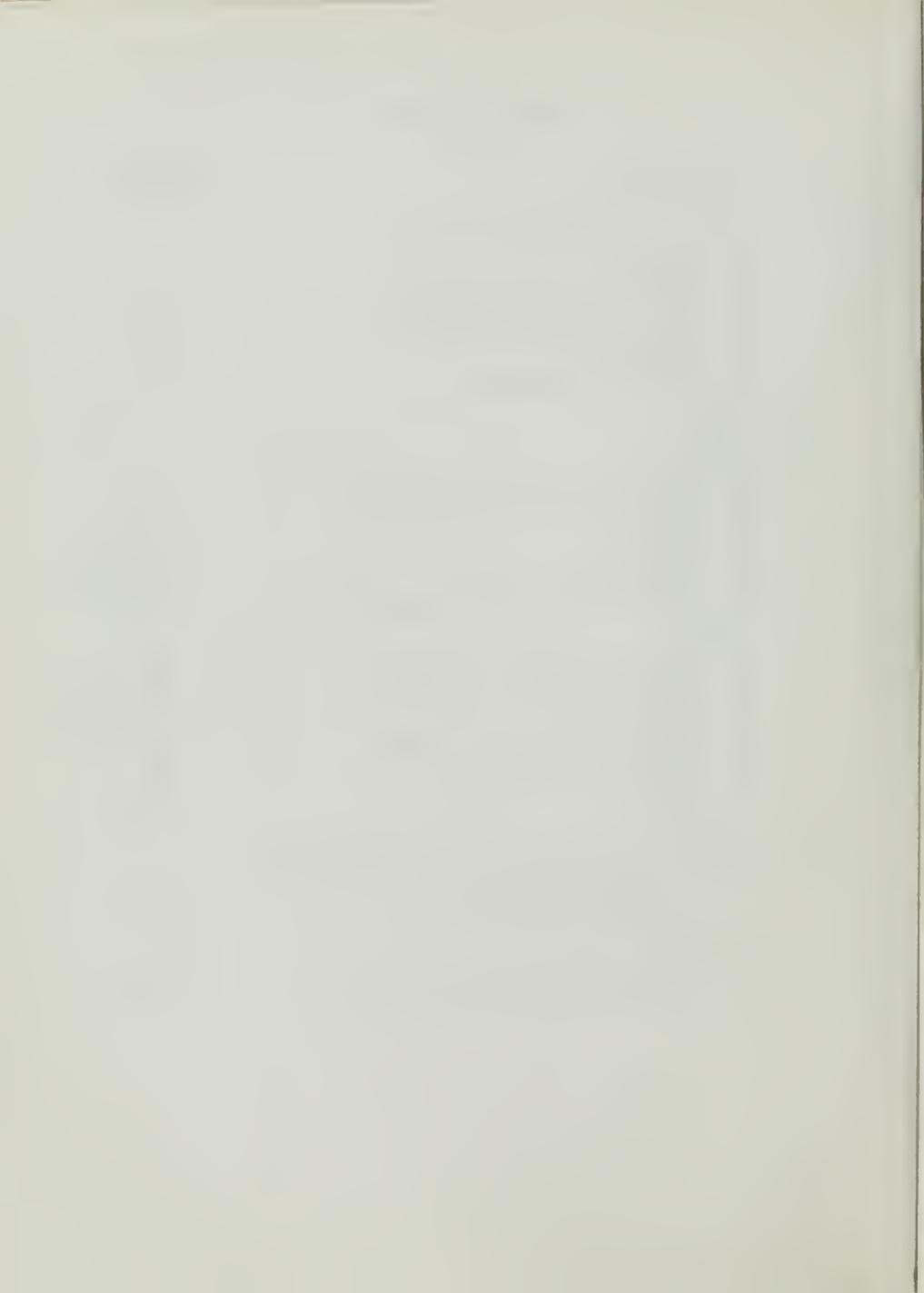


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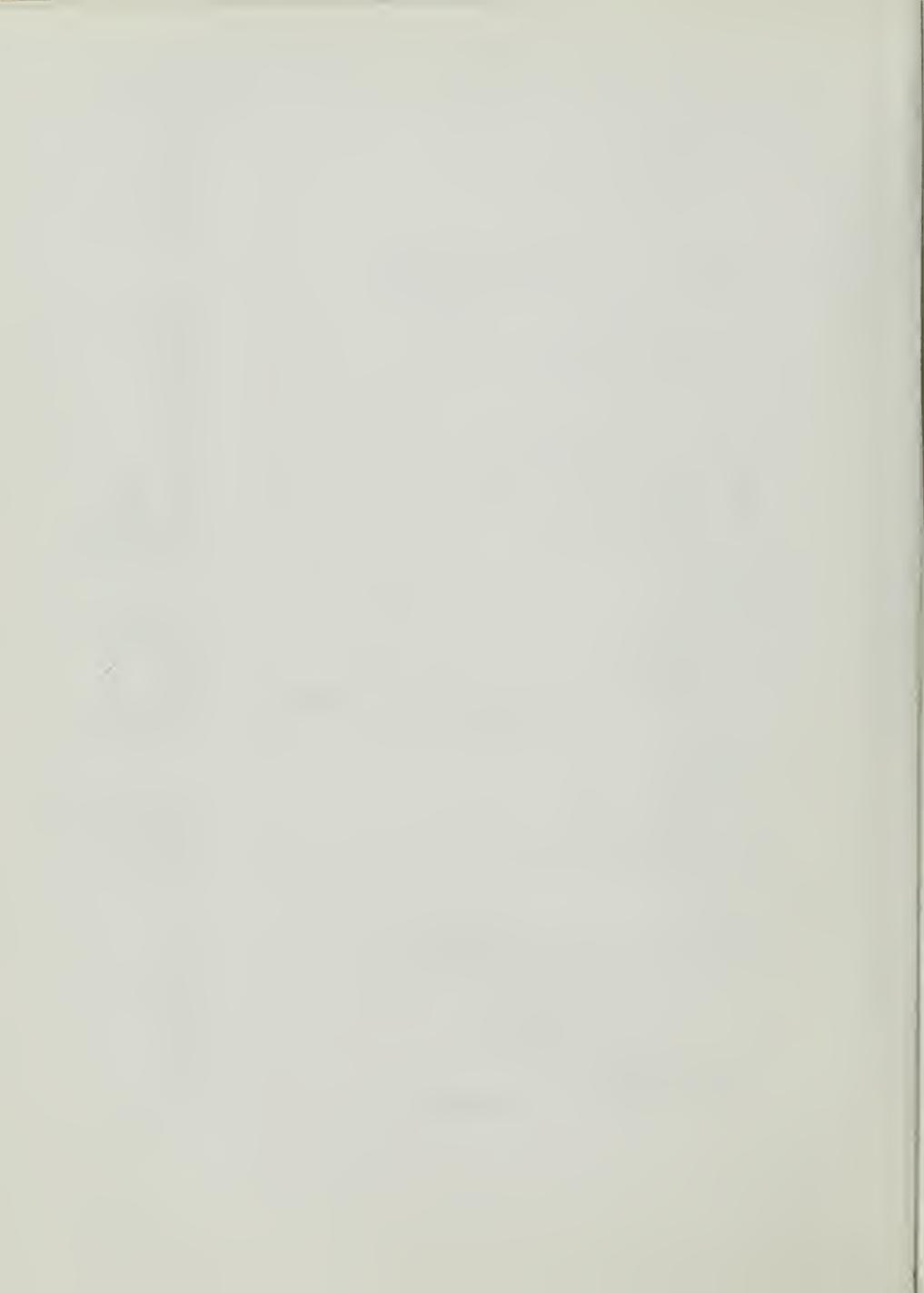
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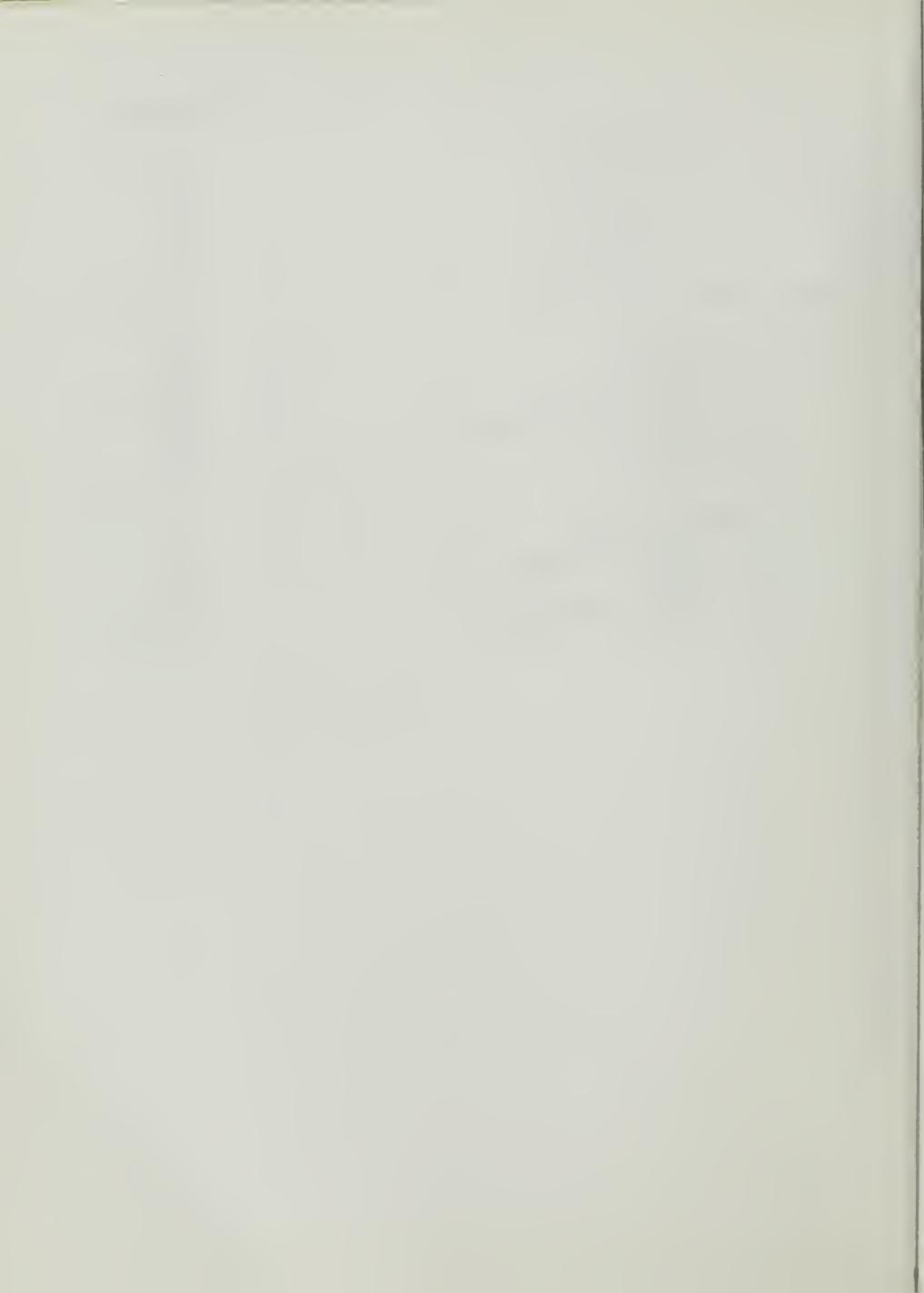
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I. INTRODUCTION

A. PURPOSE

The purpose of this comprehensive plan is to inventory and analyze the resources and facilities of Granite County, and to anticipate future needs and opportunities. The plan is also intended to provide direction to governing bodies within the county so that they can formulate decisions and achieve a better environment than would occur by chance, and to achieve it in a more orderly and efficient manner.

To be effective, a comprehensive plan must be sensitive to the needs and desires of the people of an area, as well as for the people of Granite County. The goals and objectives which are the attitudes of the people must be kept constantly in mind.

The geography or setting of Granite County poses some problems in planning and administrative services. The large portion of the county is fairly well tied together with a good road system. But the Lower Rock Creek area is more or less isolated from the rest of the county.

B. PLANNING PROCESS

To acquaint the people of Granite County with the principle of planning, a program needs to be developed. It should explain the planning process as well as some of the specific problems of Granite County.

Planning is not an exotic process. Planning is the identification of problems and problem areas, and solving these problems. Planning also attempts to prevent the development of further problems.

The Comprehensive Plan considers two broad areas of concern: social and economic planning and land use planning. Social and economic planning deals with such problems as high unemployment and availability of public facilities, while land use planning addresses itself to the compatible uses of land. While land use planning gets most of the publicity, social and economic planning are no less important.

C. PROBLEMS

Granite County lies in prime recreational country with recreational attributes such as excellent hunting, fishing, scenic areas, and an abundance of public lands. Pressures for recreational development and second homes have been increasing. This trend is expected to continue.

An excess of this type of development may result in prime agricultural lands being taken out of production, and altering the agricultural economy of the county.

Some of these recreation developments are so densely developed on small parcels that health hazards could develop in the very near future.

Although it is difficult to immediately solve these problems, certain steps can be taken to reduce their effect. Approaches to these problems are detailed in the Action program.

D. IMPLEMENTATION

Success of any plan is dependent upon the tools used to implement the plan. Tools for implementing the land use portions of the plan include subdivision regulations and land-use regulations. Subdivision regulations were adopted by the Board of County Commissioners on July 1, 1973.

In addition to the above tools, the county should develop a positive action program for improving the various problems in the county. Recommendations for a program of this type are contained in the action program in this report.

As with any planning effort the planning process is a continuing one and must not stop at the completion of the writing of this plan. The County Planning Board and this Comprehensive plan form the nucleus of planning in Granite County. A continuously maintained staff is needed to keep planning current and address problems as they continue to develop.

II. GOALS AND OBJECTIVES

GENERAL

To guide the County-wide planning report, the Granite County Planning Board has adopted the following set of goals and objectives, recognizing that other local agencies will be responsible for many of them.

A. LAND USE

GOAL

To achieve the most appropriate use of land within the district so that sufficient areas are provided for existing and future needs and at the same time so ecological and environmental values are enhanced.

OBJECTIVES

- (1) To retain present land use where it is compatible with projected needs.
- (2) To change existing land uses where they are detrimental to good and safe utilization of land. For example, bulk storage of gas and oil close to the central business district is a definite hazard. A more appropriate location for these facilities will be sought.
- (3) To make the best use of land and water resources.
- (4) To maintain the pleasant environment of the area by assuring future open space and planning development to enhance the beauty of the area.
- (5) To develop a land use plan in map form to be a guide for future consideration by administrators, developers and buyers working in Granite County.
- (6) To promote orderly and coordinated development around Georgetown Lake and to insure that its basic recreational value to all County residents is not impaired.

B. HOUSING

GOAL

To promote adequate housing for all present and future residents of the county.

OBJECTIVES

- (1) To promote a variety of housing types to meet the needs of specific family, age and income groups.
- (2) To encourage housing conventional to activities and facilities.
- (3) To encourage planned housing developments which can be served by water, sewer and other utilities.
- (4) To avoid strip housing and other forms of development unbecoming to the area.
- (5) To promote desirable locations of mobile home developments.
- (6) To plan suitable housing in the district for added retirement, newcomers and existing senior citizens.

C. HEALTH, EDUCATION, AND WELFARE

GOAL

To promote an adequate and continuing program of positive medical care, education and welfare for all members of the community.

OBJECTIVES

- (1) To assure adequate medical care for the growing numbers of older people in the area.
 - a. hospital
 - b. nursing home
- (2) To reduce or eliminate health and safety hazards in the county such as irrigation ditches in the city.
- (3) To continue a high level of school instruction and administration in the public school system.
- (4) To improve vocational education facilities in the school system.
- (5) Provide for medical and dental care locally.

D. UTILITIES AND FACILITIES

GOAL

To plan for adequate water, sewer and solid waste disposal systems for the many county re-

sidents as possible.

OBJECTIVES

- (1) To improve the sewer collection system and provide adequate treatment of all wastes and to provide a plan for extending sewers.
- (2) To promote adequate water for domestic industrial and fire protection needs throughout the county. If municipal operation of the water systems appears essential to this goal, encourage appropriate action to achieve such ownership.
- (3) To study the city and county physical and administrative needs and formulate recommendations for future action.
- (4) To encourage a solid waste collection and disposal system that is operated and maintained in accordance with Montana Department of Health recommendations.

E. TRANSPORTATION

GOALS

To plan for an adequate system of highway, rail and air transportation to serve the citizens of the area and tourists vacationing in the valley.

OBJECTIVES

- (1) To improve the primary, secondary and county road systems to better serve the area.
- (2) To maintain adequate railroad and motor freight services.
- (3) To encourage bus service in Granite County.

F. ECONOMIC

GOALS

To promote an adequate supply and variety of goods and services to satisfy the needs of the community.

OBJECTIVES

- (1) To promote as much local buying as possible.
- (2) To encourage a variety of compatible industries

to provide considerably more employment for working age people, particularly young workers.

- (3) To discourage industrial development that would be detrimental to the area and control the amount and types of wastes produced in the area.
- (4) To control air, water, noise, and aesthetic pollution.
- (5) To cooperate fully with the Forest Service, BLM, and other agencies in developing joint land use management proposals.
- (6) Maintain prime agricultural land in agricultural production.

G. PARKS AND RECREATION

GOALS

To promote diversified recreational activities in a coordinated county-wide recreation plan.

1. To preserve existing open spaces, green belts and parks where compatible with other provisions of the county land use plan.
2. To coordinate efforts by state, local and federal agencies, and by private developers to provide recreation facilities for county residents.
3. To consider special recreational needs of retired people in the area.

III. HISTORY OF GRANITE COUNTY

Long before the white men ventured into the area in search of furs, the valleys served as a main travel route for several Indian tribes, on their way to and from buffalo country, to the east. It was natural that early day trappers and fur traders followed the valleys with possible side trips in the mountains.

During the half century between the celebrated expedition of Lewis and Clark and the discovery of gold, hunting, trapping, and fur trading were the only occupations on the upper Missouri and Columbia Rivers.

The Flint Creek and Rock Creek valleys, which now form most of Granite County, have a colorful history of mining and agriculture. Soon after the discovery of gold on Gold Creek, in 1852, many other rich strikes were made. By 1865, many small communities and towns had sprung up, each with their own mines and placer diggings.

The town of Philipsburg was first settled and laid out in 1866. In 1867 Philipsburg had a population of 700 people. A wagon road was built in 1867, connecting the mines at Philipsburg with Drummond on the Clark Fork River and the Mullan Road. The Northern Pacific Railway through Drummond was completed in 1883, and in 1887 a branch line was completed to Philipsburg. Telephone communications were established in 1886.

Gold mining also concentrated around the town of Quigley and the Golden Scepter Lode, located on Brewster Creek. In 1896, a 100 stamp, stamp mill was constructed and a large

canal dug, to serve the mill with water. Soon the new town of Quigley supported a population over 1000.

Likewise, the towns of Princeton, Granite, Garnet, Combination and Black Pine sprang up and became flourishing settlements. Today only Philipsburg remains as a populated urban settlement of those towns mentioned. The early miners were looking for gold, but soon discovered the rich deposits of silver and manganese. These metals paid fabulous returns to the owners.

Little thought was given to agriculture until 1880 when large numbers of cattle were brought into the valley to feed on the abundant forage. From this time to the present day, cattle production has been a major contributor to the economy of the area. With the introduction of livestock came the need for feed for the long winters. The cutting of wild hay on the bottom land became the usual practice, and is still the only source of hay for many ranchers.

Granite County was organized in 1893 out of portions of Deer Lodge and Missoula Counties. The county enjoyed a rather prosperous existence mainly due to the mining boom which lasted up to and including World War I, but the depression that followed closed many of the marginal operations.

Today, the lumber industry is an important industry in Granite County with five sawmills and three pole plants operating in the county.

Source:

U.S. Department of Interior, Clark Fork River Basin
1959

Granite County Conservation District, District Program
for Granite Soil and Water Conservation District, Philipsburg,
Montana, 1963

Deer Lodge National Forest, Deer Lodge National Forest
Multiple Use Plan, Part II, April 1973

and

the

IV. POPULATION

A. GENERAL

Granite County has undergone erratic fluctuation in population since 1917 when it was established from parts of Deer Lodge and Missoula counties, as shown in Figure P-3. From 4200 people in 1920, the population declined to 3200 by 1930, but grew to 3400 in 1940. World War II and the post-war boom drew the people out of Granite County, and decreased the population to 2700. Then, by 1960, the population had increased to 3000. From 1960 to 1970, the county's population has dropped nearly 300 people, to 2737.

This fluctuation of population has been mainly caused by the instability of the mining industry.

B. CHARACTERISTICS AND DISTRIBUTION OF COUNTY POPULATION

Figure P-1 shows the distribution of population in the county by enumeration districts. This is not a true picture of population concentrations, as most of the population is living in the narrow valley corridors of the county.

Changes in relative distribution from 1960 to 1970 are shown in Table P-1. This shows that the rural areas lost (16.2%) of their population, while the urban areas lost only (3.1%).

TABLE P-1

URBAN - RURAL POPULATION CHANGES FOR GRANITE COUNTY
1950 - 1970

	1950	1960	No.	Changes 1950-60		1970	Changes 1960-70	No.	%
				1960	%				
Total	2,773	3,014	+241	+ 8.7		3,014	2,737	-277	- 9.2
Urban									
(Inc Towns)	1,579	1,684	+105	+ 6.6		1,684	1,622	- 62	- 3.1
Rural	1,194	1,330	+136	+11.4		1,330	1,115	-215	-16.2
Farm	987	712	- 275	- 9.5		712	555*	-157	-22.1
Non Farm	407	618	+211	+51.3		618	550*	-68	-11.0

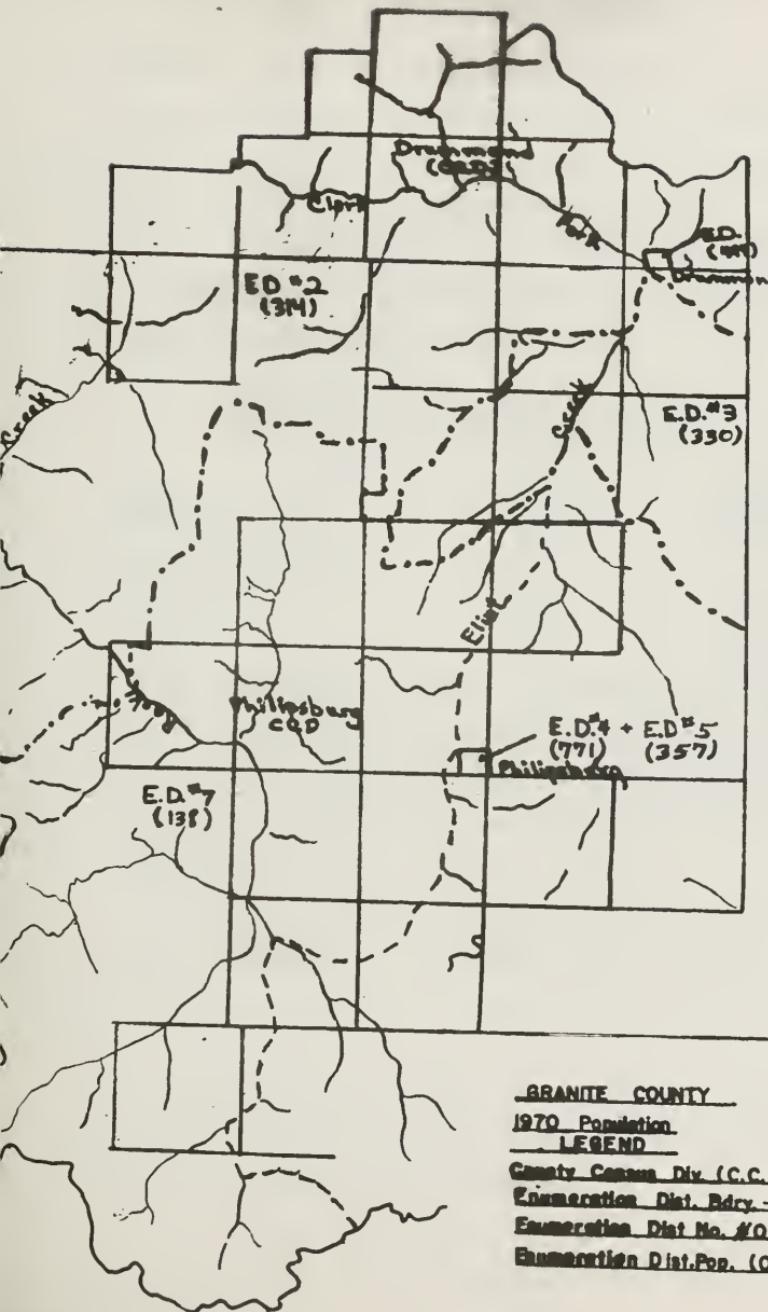
*estimated

Officially, Granite County had 2,737 people within its borders in 1970. Of these, 1,399, or 51.1 percent, were males, and 1,338 were females. In 1960, males made up 52.7 percent of the population. Table P-2 gives detailed age-sex data from the 1970 census, and comparisons to Montana data.

In the age groups from 0 to 34, the women out-numbered the men. However, the differences are slight. In the groups 35-65, the men out-number the women. Comparing the total percentages with the state percentages for various age groups, it is evident that Granite County has an older population relative to the state. The median age for the county is 32.2 compared to 27.1 for the state. The total percentage earners (19-65), is 44.9 percent as compared to 51.7 percent for the state. However, the county has relatively fewer people under 18 (36.6%), than the state (38.4%).

About 11 percent of the county's population is over 65. These figures have a bearing on the types of housing needed as well as the needs for community services.

Two-thousand seven hundred and sixteen people of the county are white, with 20 Indians, and 1 person of another race.



GRANITE COUNTY

1970 Population

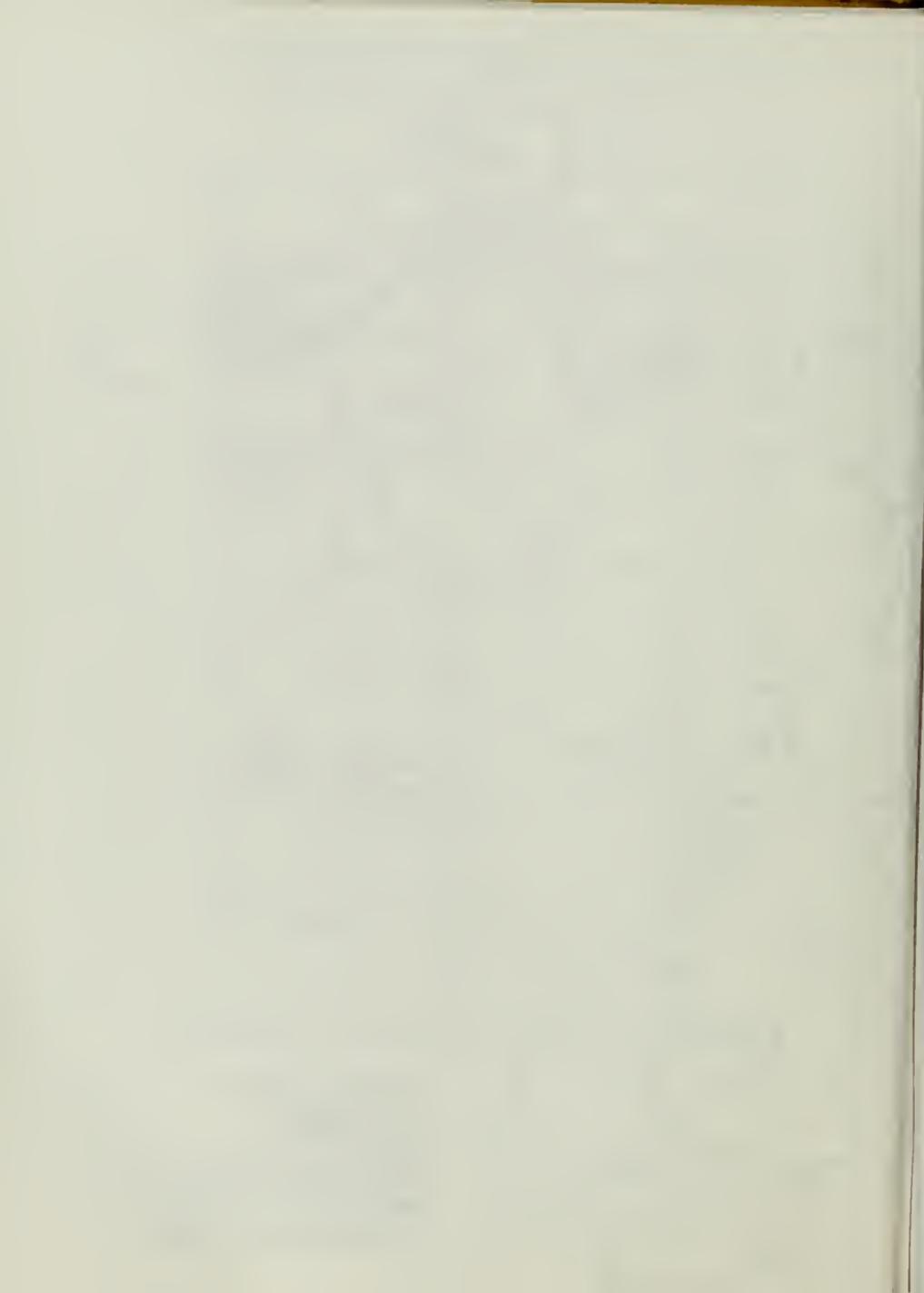
LEGEND

County Census Div. (C.C.D.)

Enumeration Dist. Bdry.

Enumeration Dist. No. #0

Enumeration Dist. Pop. (000)



C. INCOME

The median income for families in the county during 1969 was \$7,132. The county's family median income was 18.6 percent lower than the states' median income of \$8,512. However, the per capita income was \$2,500 as compared with \$2,712 for the state, or only 8 percent lower. This would indicate the average family income in Granite County is somewhat smaller than the average in the state.

Following is a tabulation of income by families for Granite County.

Income	No. Families	% Families
Less than \$5,000	201	27.0
\$5,000 to \$12,000	442	59.5
Over \$12,000	102	13.5
Total	745	100.0

It is noted that 27 percent of the families have less than \$5,000 annual income as compared with 22.1 percent for the State. The Census Bureau estimated that 12.1 percent of Granite County's population has less than poverty level income.

D. EDUCATION

41.1 percent of the people of Granite County have at least nine years of education. The median number of school years completed is 11.3 which compares with 12.3 for the state.

In higher education, Granite County has 6.3 percent of the population completing four or more years of college as compared to 11.0 percent for the state.

These figures indicate that most of the young people in Granite County that get a good education, leave because of lack of jobs. The Granite County population as a whole, is somewhat lesser educated than that of the state as an average.

TABLE P-2
GRAINITE COUNTY
AGE-SEX DATA - 1970

Age Group	No. Males	Percent Males	No. Females	Percent Females	Total No.	County Percent	State Percent
0 - 5	88	3.2	106	3.9	194	7.1	10.1
6 - 14	286	10.5	290	10.6	576	21.1	17.6
15-19	108	3.9	125	4.6	233	8.5	10.7
20-34	219	8.0	220	8.0	239	16.0	20.6
35-64	537	19.6	454	16.6	991	36.2	31.1
65*	160	5.9	143	5.2	303	11.1	9.9
Total	1,399	51.5	1,338	48.9	2,737	100.0	100.0

E. POPULATION TRENDS

Table P-2 shows the 1970 age composition of the population. To make population estimates, it is necessary to see what trends are developing. Figure P-2 shows changes in the various age groups between 1950 and 1960 appears to have been older people and young people less than 19 years old. Persons 25-44 migrated out of the county. During the period from 1960 to 1970, a loss of job opportunities occurred. The middle aged workers (35-54) left the county and took their children with them. This is especially true of the 0-5 year olds.

The number of deaths per 1000 population in Granite County has remained stable over the past two decades, and it is expected that the death rate will continue at about the same rate. This can be attributed to an increasing life expectancy, because of higher living standards and better health care.

FIGURE P-2
GRANITE COUNTY
AGE GROUP TRENDS
1950-1970

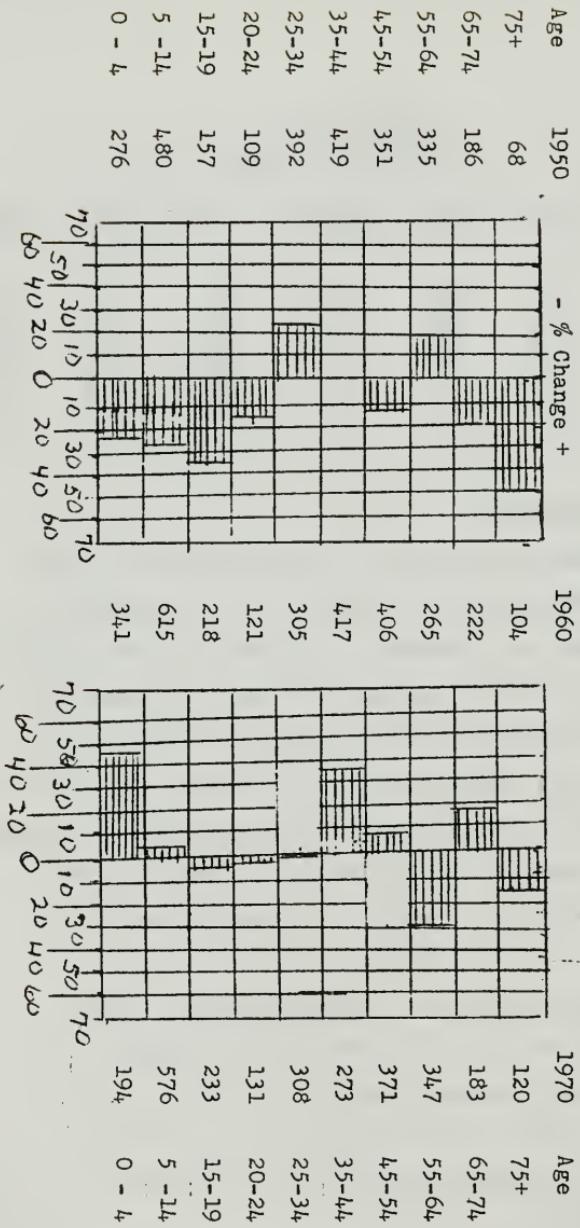


FIGURE P-3
POPULATION TREND
Granite County

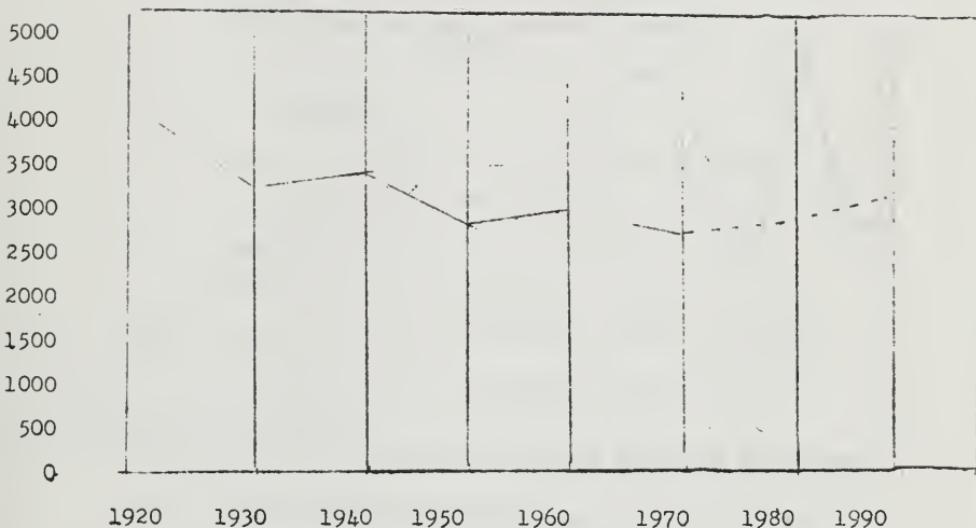
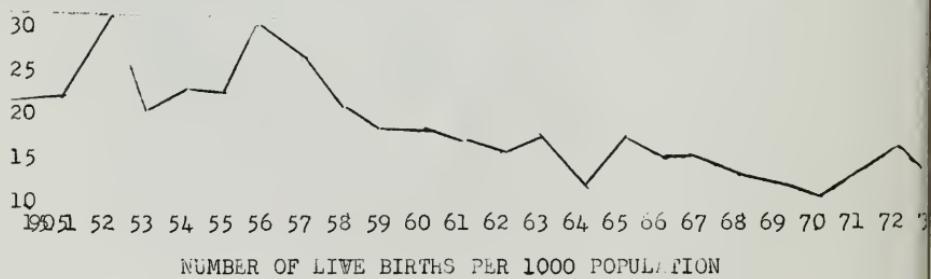


FIGURE P-4
BIRTH RATES IN GRANITE COUNTY



NUMBER OF LIVE BIRTHS



NUMBER OF LIVE BIRTHS PER 1000 POPULATION

During the next decade, there will be a large proportionate increase in the number of retired persons, placing a larger burden upon facilities for the elderly and increasing the tax load on the remaining wage earners. This will be especially true if the percent of 20-54 year old age bracket does not increase.

Birth rates in the county have dropped substantially as can be seen in Figure P-4. The highest birth rate in the past 20 years occurred in 1952, with slightly more than 30 live births per 1000 population. The lowest occurred in 1964 at a rate of 13 births per 1000 population. The birth rate in appearance, is stabilizing at about 16 births per 1000 population.

The current trend in birth rates indicates that a smaller percentage of the population will be in the younger age categories.

F. POPULATION PROJECTIONS

Population projections for Granite County are dependent upon assumptions on further migration. It appears that the birth rate has essentially stabilized, and that the natural increase will not change drastically over the next twenty years. Therefore, any major change in population will necessarily come from changes in the migration pattern of the county.

It should be noted that any population projection is an estimate based on past trend and future assumptions, and is subject to variation based on the validity of these assumptions. Projections for Granite County may fluctuate widely because a relatively small change in population can cause a large percentage change.

The population projections shown in Figure P-5 takes into account past trends of birth and death rates with the assumption that net out-migration will cease. Some of the rational ideas behind this are presented in the next few paragraphs. These are meant to be conservative figures. If mining and pulp wood become more than just minor industries, these figures will be too low.

The number of ranches in Granite County has continually declined in the past 30 years. This has substantially decreased the ranch employment in Granite County. The ranches are now at a point where if consolidation to any degree continues, the families that are displaced, will in most cases have to be replaced by hired men. Indications are that the county will experience very little loss in agricultural

employment.

The big loss of employment in mining cannot continue as there were only 36 persons employed by mining in 1970.

If cord wood logging and mining are started, and recreation continues to grow, young workers may stay in the county.

	FIGURE P-5			
	1950-60	1960-70	1970-80	1980-90
Births	663	524	435	448
Deaths	321	352	290	300
National increase	+312	+171	145	148
Population change	+241	-277	163	250
Net Migration	- 71	-448	+ 18	+ 62

1980 population - 2900
1990 population - 3150

G. COMPARISONS WITH OTHER COUNTIES

Granite County is one of 42 counties in Montana that lost population between 1960 and 1970. Comparing eight counties of southwestern Montana, three gained population, and five lost population, as shown in table P-3.

A loss of 9.2 percent in Granite County's population corresponds to a general loss of about 4.5 for southwest Montana. Losses in Granite, Madison, and Powell counties can be attributed to losses of employment in agriculture and timber industries. Decreases in Deer Lodge and Silver Bow Counties are due to a general decline in mining and manufacturing employment. The increases in Ravalli and Jefferson Counties are likely due to their proximity to Missoula and Helena. Commuter housing developments are springing up in northern parts of each county. The increases in Beaverhead County is due to the east bench irrigation project and the expansion of Western Montana College.

The rate of out-migration between 1960 and 1970 in Granite County is 15.2% or about half again as much as that of the whole southwest Montana Area.

TABLE P-3

Southwestern Montana Population Changes

	1	2	3	4	5	6
Beaverhead	7,194	8,187	+13.8	1.5	+ 476	+ 6.6
Deer Lodge	18,640	15,652	-16.0	21.1	-4,083	-21.9
Granite	3,014	2,737	- 9.2	1.6	- 458	-15.2
Jefferson	4,297	5,238	+21.9	3.2	+ 760	+17.7
Madison	5,211	5,014	- 3.8	1.4	- 225	- 4.3
Powell	7,002	6,660	- 4.9	2.8	- 938	-13.4
Ravalli	12,341	14,409	+16.8	6.0	+1,627	+13.2
Silver Bow	45,454	41,981	- 9.6	58.6	-7,770	-16.7
Total S.W.						
Montana	104,153	99,878	- 4.1	5.3	10,611	-10.2

1 - 1960 Population

2 - 1970 Population

3 - 1960-70 percent change

4 - 1970 Population density - people/sq. mile

5 - Net Migration

6 - Net Migration as percent of 1960 population

V. ECONOMY

A. MONTANA'S ECONOMY

A brief summary of Montana's economy will help evaluate several factors in Granite County's economy. A major part of these statistics were secured from a talk given by Maxine Johnson of the Bureau of Business at the University of Montana.

Montana's economy is experiencing very slow growth. Only a net increase of about 14,500 jobs were created in the ten year period from 1960 to 1970. The population increase amounted to about 1.35 times the number of new jobs created. The State actually experienced a net out-migration of 59,165 people in the ten year period - an average of 5,916 persons per year. Montana's economy has not been able to provide enough jobs for its own residents.

The State's per capita income has been decreasing through the years. In 1950, Montana's per capita income was 108 percent of the average for the United States. By 1970, it had dropped to 86 percent of the U.S. average. Many of the best trained students move out of state to better paying areas. The low per capita income is not conducive to keeping them in Montana.

Following is an "estimate" of the changes in employment in Montana in various areas in the ten year period from 1960 through 1970.

<u>Type of Employment</u>	<u>Net Gain</u>	<u>Net Loss</u>
Agriculture		10,500 jobs
Metal Industries		2,050
Manufacturing		
(1) Food products	1,950 jobs	
(2) Missile assembly	250	
(3) Other	1,800	
Railroad		3,950
Federal Government	2,200	
Secondary employment	<u>24,800</u>	<u> </u>
Totals	31,000	16,500
TOTAL ESTIMATED GAIN	14,500 Jobs	

Agricultural and railroad employment in Montana is expected to continue to decline in future years. Some increased employment in metal and coal mining can be expected. Wood products and food manufacturing should continue to produce additional employment. Federal employment will increase. However, the losses in agriculture and railroad employment in the next ten years is expected to outnumber the gains in the other basic industries; possibly a loss of 1,500 jobs in the ten year period in basic industries.

On the brighter side, secondary employment in those industries catering to local markets will continue to increase. Perhaps 22,000 new jobs in these industries will exist in 1980 over those in 1970. Most of these jobs will be in retail and wholesale trade, services, and state and local government.

Montana's job gap is expected to fall about 32,000 jobs short in the 1970 to 1980 period. Many Montanans will continue to look for employment elsewhere. Many women go out of state with

their Montana husbands or to look for work elsewhere. The average per capita income in Montana will continue to fall as a percentage of the U.S. average and may only be 79 percent of the U.S. in 1980.

Barring some very unusual and unexpected development, Montana's overall economic outlook is not as prosperous as the large majority of other states.

B. COMPONENTS OF THE COUNTY ECONOMY

General industry groups used by the Bureau of the Census have been combined into five component groups for this analysis. These component groups are as follows:

Agriculture Component

includes Agriculture, Forestry and Fisheries Census Group

Manufacturing Component

includes Mining, Construction and Manufacturing Census Group

Utilities Component

includes Transportation, Communications and Utilities and Sanitary Census Groups

Trade Component

includes Wholesale Trade, Retail Trade and Finance, Insurance and Real Estate Census Groups

Service Component

includes Business and Repair Services, Personal Services, Entertainment and Recreation, Hospital and Health, Education and Services, Non-Profit and Religious, Professional Services and Public Administration Census Groups

Employment by component groups is given in Figure E-1 and Table E-1 for 1950, 1960, and 1970. Each component group is analyzed in terms of relative employment percentages, number of establishments, size of payroll, general economic impact and trends.

TABLE E-1
GRANITE COUNTY
EMPLOYMENT BY COMPONENT GROUPS

<u>Component</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1971</u>
Agriculture	354	30.4	290	26.7
Manufacturing	310	26.6	328	30.2
Utilities	80	7.0	90	8.2
Trade	199	17.0	177	16.3
Service	221	19.0	202	18.6
Total	1,164	100.0	1,087	100.0
				948
				100.0

C. AGRICULTURE COMPONENT

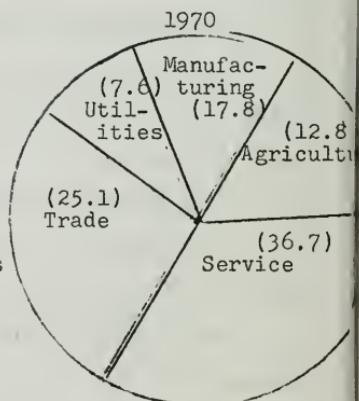
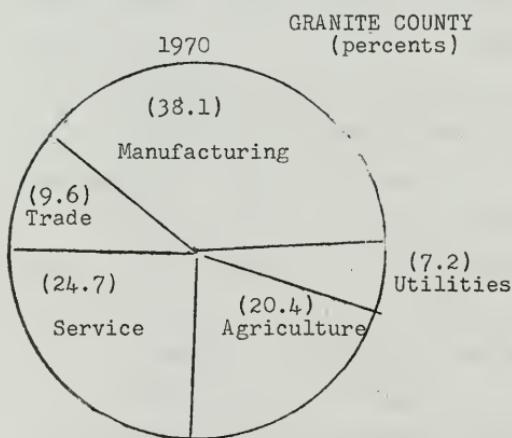
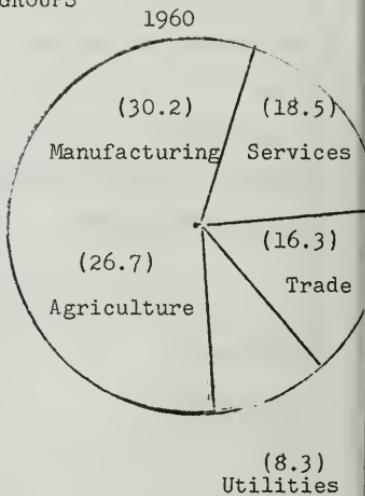
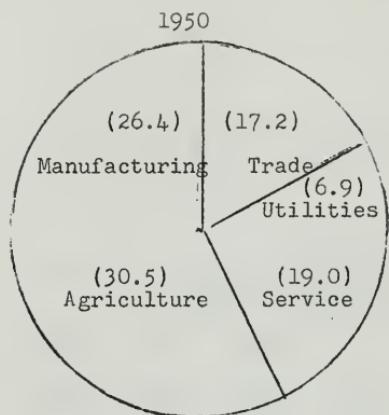
Employment in this component lost 160 jobs from 1950 to 1970. Of the 194 employees shown, about 180 were in agriculture, and the rest in forestry. This would be Forest Service personnel mostly.

Agricultural employment ranges from about 175 to about 300 during the harvest months.

As shown in Figure E-1, Agricultural Employment has dropped from 30.4 percent of the total Granite County employment to 20.5 percent, although the cash receipts for Agriculture has continued to steadily increase, almost doubling from 1964 to 1971.

A trend has been for the farms to be combined into larger places and the number thereby reduced. More mechanization has reduced the number of farm laborers. More acreage has been put into production as well as more land under irrigation.

FIGURE E-1
EMPLOYMENT BY COMPONENT GROUPS



GRANITE COUNTY
(percents)

MONTANA
(percents)

TABLE E-2
EMPLOYMENT BY GENERAL INDUSTRY GROUP
GRANITE COUNTY, MONTANA, 1950, 1960, 1970

	<u>1950</u>	Percent	<u>1960</u>	Percent	<u>1970</u>	Percent	Percent Change:		
							<u>1950-60</u>	<u>1950-70</u>	<u>1960-70</u>
Total	1,175	100.0	1,118	100.0	948	100.0	-4.9	-19.3	-15.2
Agriculture, Forestry & Fisheries	354	30.1	290	25.9	194	20.5	-18.1	-45.2	-33.1
Mining	152	12.9	147	13.1	36	3.8	-3.3	-76.3	-75.5
Construction	59	5.0	82	7.3	141	14.9	-39.0	139.0	72.0
Manufacturing	99	8.4	99	8.9	184	19.4	85.9	85.9	85.9
Transportation	64	5.4	51	4.9	65	6.9	-20.3	1.6	27.5
Communications	6	•5	10	•9	0	0	66.7	-100.0	-100.0
Utilities & Sanitary Wholesale Trade	10	•9	29	2.6	3	•3	190.0	-70.0	-89.7
Retail Trade	8	•7	0	5	5	•5	-100.0	-37.5	-37.5
Finance, Ins. & Retail Estate	191	16.3	177	15.8	76	8.0	-7.3	-60.2	-57.1
Bus. & Repair Services	12	1.0	8	•7	11	1.2	-33.3	-8.3	37.5
Personal Services	24	2.0	24	2.1	11	1.2	0	-54.2	-54.2
Ent. & Recreation	62	5.3	45	4.0	52	5.5	-27.4	-16.1	15.6
Hospital & Health	7	•6	12	1.1	11	1.2	-71.4	-28.6	-58.3
Education & Services	14	1.2	12	1.1	11	1.2	-14.3	-21.4	-8.3
Non Profit & Relig.	43	3.7	31	2.8	68	7.2	-27.9	58.1	119.4
Prof. Services	—	—	13	1.2	10	1.1	—	—	23.1
Public Admn.	49	•9	13	1.2	16	1.7	30.0	60.0	23.1
Other	11	•2	44	3.9	60	6.3	-10.2	22.4	36.4
		•9	31	2.8	—	—	181.8	—	—

Source: U.S. Dept. of Commerce, Census Bureau

In 1964, the average ranch was 2,414 acres with 350,030 acres in ranches. In 1969, the average ranch was 2816 acres with 394,223 acres in ranches.

In the last few years, ranchers have been becoming more livestock oriented. In 1972 the cash receipts for livestock was \$4,157,900 while the receipts for crops was only \$384,600. The only livestock that has been increasing in Granite County is cattle and calves. They have increased from 30,500 in 1962, to 35,200 in 1972 with an all-time high in 1970 with 36,000 head.

There is potential for further agricultural growth in Granite County. The Forest Service and the BLM have been working with leases to provide a rest-rotation grazing system which will increase the carrying capacity of grazing land involved. Also the SCS is working on individual ranch plans with the Conservation district cooperators to provide the best results.

If more water impoundments were placed in the headwaters of the small streams in Granite County a great number of acres could be put into irrigated crop land, that has been dry land grazing. Numerous sprinkler systems have been installed in the last few years, to provide for an increased efficiency in water use.

Agriculture will continue to be a vital part of the Granite County economy.

TABLE E-3
GRANITE COUNTY
AGRICULTURAL DATA

	<u>1964</u>	<u>1969</u>
Farms	143	140
Land in Farms (acres)	350,030	394,223
Average Size (acres)	2,414	2,816

Number of Farms by Value

1. Over \$20,000	38	50
2. \$10,000 - \$19,999	43	31
3. \$5,000 - \$9,999	24	16
4. \$0 - \$4,999	40	23
Part time	-	-
Partial Retirement	-	-

TABLE E-4
GRANITE COUNTY
AGRICULTURE CASH RECEIPTS

YEAR	LIVESTOCK	CROPS	TOTAL
1964	\$1,984,100	204,700	2,188,800
1965	2,393,100	239,600	2,632,700
1966	2,781,400	235,700	3,017,100
1967	2,691,100	248,300	2,939,400
1970	3,549,000	322,300	3,871,300
1971	4,157,900	384,600	4,542,500

TABLE E-5
GRANITE COUNTY
LIVESTOCK NUMBERS

YEAR	<u>1962</u>	<u>1966</u>	<u>1970</u>	<u>1972</u>
Cattle and calves	30,500	33,900	36,000	35,200
Sheep and lambs	5,900	3,600	2,800	2,100
Hogs and pigs	700	200	100	100
Chickens	4,000	NA*	900	800

NA Not Available

D. MANUFACTURING COMPONENT

These first two components, agriculture and manufacturing roughly correspond to what is considered primary employment, which does not include some federal and state employees, but does include construction workers. The relative total employment in these two components has increased from 57.0% in 1950 to 58.6% in 1970. This trend is somewhat unique, since national statistics show that employment in derivative industries is increasing relative to that in primary industries.

In Granite County, mining activity consists of several small mines and some small gravel quarries. Mining has had a considerable effect on the economy in Granite County. In 1950, there were 152 miners and in 1970 only 36 miners remained. When the mines closed there was nothing to take its place immediately.

Phosphate rock is a significant resource of the County with an estimated 8 million tons of reserves in the Philipsburg-Boulder Creek area. It is estimated that the demand for Phosphate will increase from 3 to 5 percent annually to the year 2000. In spite of the fact that the demand for phosphate is likely to increase 50% in the next 10 years, it is predicted that during this period, The Montana phosphate industry will supply a dwindling portion of the national demand. Two factors are responsible for this unfavorable condition: (1) Montana's deposits must be mined using high cost under ground methods, that cannot compete favorably with those deposits in the Western field that can be

surface mined, even though the Montana fields are located nearer to many important markets. (2) The southeastern field expanded production capacity drastically during the period from 1966-68, in anticipation of a sharp increase in demand. Because of wet weather during this period (fertilizer consumption is dependent on weather during spring months) the expected demand did not materialize. Since, in phosphate products, there is no quality competition, prices dropped in response to the oversupply. This dip in prices forced several Montana operations to close. Technological changes could have some affect on this. . It is not expected that any phosphate mining will take place in Granite County during the next 10 years.

Manganese is used principally in the manufacture of cast iron and steel, but also for manufacture of chemicals, glass, and for batteries. Existing known world reserves are more than adequate to supply world demand through 2000. 1968 prices were \$.59 to \$.64 per long ton unit of contained manganese (a long ton unit is 22.4 lb.) Prices will probably not increase significantly through 2000, and the U.S. will continue to rely heavily upon imports for its major supply (probably 90% or more). Domestic production will resume in quantity only if prices increase to \$2.50 per long ton unit. The manganese deposits of Granite County are high-grade and can be concentrated to "battery-grade" material (containing 68% or more manganese-dioxide.)

This offers a competitive advantage, and is the major reason for the long history of production from this area. It is not expected that manganese production will resume between now and 2000.

Tungsten is a heavy, hard metal with the highest known melting point and whose major uses are in manufacture of heat resistant "high speed" steel and alloys, and as filaments in electric lamps. The current U.S. demand is about 400 million pounds and is forecast to increase at 4.2 to 5.6% annually through 2000. About 75 percent of this demand is supplied by domestic sources. Prices have been held at \$2.17 per lb. by the government allowing unrestricted sales from their stock-piles. Unless additional reserves are found, by 1980, a tight world supply situation may develop, and by the mid 1980's prices may increase to \$3.00 per lb. Known domestic reserves that could be produced at various prices are:

<u>Price</u>	<u>Pounds Per Year</u>
\$2.17/lb.	175 million lbs.
\$3.00/lb.	190 million lbs.
\$4.00/lb.	300 million lbs.

At a price of \$3.00, Montana would probably account for 4 percent of this 190 million lbs. reserve. The tungsten reserves in Henderson Gulch and the tungsten prospect near Philipsburg, are considered potential extraction areas. It is difficult to predict when actual mining of tungsten might take place.

Table E-6
MINERAL PRODUCTION STATISTICS

MANGANESE PRODUCTION (Ore and Concentrates)

1900-1917	3367
1918-39	780,000
1940-1962	56,000
1963-1973	20,000

TUNGSTEN PRODUCTION (Concentrates)

1942-49	142 Tons (63% WO ₃)
1949-71	1 " (est.)
1972	1 " (est.)

GOLD, SILVER, LEAD, ZINC, AND COPPER PRODUCTION
(DOLLARS IN THOUSANDS)

YEAR	GOLD	SILVER	LEAD	ZINC	COPPER
1864-92	4000	35,000	1000	1000	100
1892-1904	1000	10,000	100	100	500
1904-1973	3000	25,000	2500	8000	1000
TOTAL	8000	70,000	3600	9100	1600

GRAND TOTAL \$92,000,000

PHOSPHATE ROCK PRODUCTION

YEAR	AMOUNT
1929-32	150 ton
1946-49	12,170 ton

Gold has been produced since the early history of Granite County. In 1968 a two-tier price system went into effect with an official price of \$35.00 an ounce for international transactions, and a floating price for private transactions. All of the U.S. government surplus was sold to hold prices down, but on the private market it is selling for \$110 to 120 an ounce. This is a price where suppliers will increase production. Currently, domestic sources supply about 20 percent and the rest of the U.S. demand is imported. The increased price of gold has already been a stimulating influence on prospecting activity in western Montana, and this trend will continue in all areas that have a history of gold production. Because of the extent of gold deposits it is hard to predict if or when mining would begin. It might be possible that gold would be produced as a co-product with silver.

Silver was the first monetary standard established in America. The average price of silver in 1968 was \$2.14/oz, as compared with the current price of about \$4.00/oz. Silver is used as an electrical conductor in certain equipment, also to make jewelry and in dental work. Industrial uses and demands for silver are expected to increase from 1.4 to 3.6 percent annually to a level of about 450 million ounces, per year. The U.S. has been a net importer of silver. Since

most of the U.S. silver imports come from Canada and Mexico, the future of this situation continuing seems good. An apparent world deficiency of silver in the year 2000 is projected, which will have the effect of elevating prices by that year.

Silver production is predicted to increase in Granite County. The major problem in this county is that concentrators need to be installed to reduce shipping rates. A concentrator drastically increases initial costs.

An increase in silver production will also result in an increase in production copper, lead, and zinc, as these metals are usually found in intimate association. Recovery of all associated methods make all mining operations much more feasible.

Mining of limestone and sapphires will probably continue at about the present rate. There will be a gradual, but steady increase in the demand for high purity limestone, which will likely occur. Presently, there is one quarry of high purity limestone being mined. The reserves of this type of deposit are unlimited, and future production depends on mining conditions, transportation facilities, and market trends.

Mining as a whole in Granite County presently is looking much brighter, and will probably help stabilize the economy for a while, although mining is an unpredictable occupation.

For a period of time prior to 1960, the logging and sawmill industry in Granite County employed only a few men. A few small mills did operate, supplying the local demand for

rough lumber. During the late 1950's, the demand for wood products, attracted outside capital, and a fairly large mill was constructed near Philipsburg. A considerable quantity of timber was purchased from public as well as private land. Since that time, the demand for wood products has continued, and the industry has expanded and now is one of the major industries in the county. In 1970, there were 157 men employed in the wood product industry in Granite County.

The present demand for wood products has caused the cutting of saw-timber stands in an excess of annual replacement on private lands, within the county. The two large mills in the county are now supplementing their saw-timber supply to some extent with timber from outside of the county. There is not sufficient timber to sustain the two large mills and other smaller mills unless logs are hauled from outside of the county.

The moratorium on Rock Creek, which reduced the allowable cut on federal lands did cause a temporary reduction in Forest Service sales, but the Forest Service sustained annual cut was never large enough to support two mills.

By 1976, an inventory of timber on Forest Service administered public lands will be completed by the Forest Service. Future sale volumes will be determined by this inventory. The demand for wood products may make it profitable to salvage the dead timber and other small timber that has not been marketable. If this proves to be feasible, it will make considerably more volume of wood products available in the county, and add to the employment within the county.

There may be sufficient volume of this type of wood to sustain a local processing plant. A local plant would have a tendency to give year long employment.

Summary of the woods product industry is as follows:

1. There is insufficient saw-timber volume within the county or close proximity of the county to sustain the present small mills and the two large mills.
2. There is sufficient round material to sustain and possibly increase the output of the present post, pole plants.
3. Employment in the wood product industry could level off at near the present level if the industry is expanded to utilize the deadwood and other inferior timber now being wasted, and a local processing plant is established.

The establishment of a market for small green timber and salvage of waste material for pulp will have a tendency to clear cut more private land and convert this from timber to grazing land for livestock.

The construction industry in 1970 employed 184 persons, an increase of 139 percent over the past twenty years. Construction is not expected to increase in the next few years, although it will continue to be a factor in the Granite County economy.

Manufacturing as a whole contributed a taxable salary of about six million dollars for Granite County in 1972, compared to about one million dollars in 1967.

E. WHOLESALE AND RETAIL TRADE

Wholesale and retail trade in Granite County has declined from 17.0% of the total employment in 1950, to 9.7% of the total employment in 1970. (Refer to Table E-1). Although the number of employees has decreased dramatically since 1950, the taxable payroll has increased from \$220,000 in 1967, to \$288,000 in 1972. Of the 92 persons employed in trade in 1970, only five were in wholesale trade.

Table E-7 shows the number of each type of business in Granite County. Almost half of the businesses in Granite County are eating and drinking establishments. Table E-8 shows that the retail trade in Granite County is only capturing 42.3% of the retail trade dollars spent by Granite County residents. With the Granite County percent of capture third lowest of eight southwestern counties, it appears there is potential for added retail businesses there.

Wholesale trade employees in Granite dropped from 8 in 1950, to 0 in 1960, then increased to 5 in 1970. Wholesale trade in Granite County is a very minor economic consideration. If the percent of capture of retail trade dollars was increased by 50 percent, then maybe Wholesale trade would be more economically profitable.

TABLE E-7
WHOLESALE AND RETAIL TRADE

Bldg. Material, Hardware & Farm Equipment Dealers	4
General Merchandise Store	3
Food Stores	5
Automotive Dealers	2
Gasoline Service Stations	9
Apparel and Accessory Store	2
Eating And Drinking	23
Drug Stores and Proprietary Stores	2
Miscellaneous Retail Stores	<u>9</u>
Total	59

TABLE E-8
SOUTHWEST MONTANA
1970 ESTIMATED PERCENT CAPTURE

<u>COUNTY</u>	<u>1970 PERCENT CAPTURE</u>
Beaverhead	69.1
Deer Lodge	51.9
Granite	42.3
Jefferson	28.1
Madison	35.1
Powell	54.6
Ravalli	59.4
Silver Bow	83.4

F. SELECTED SERVICES

There were 233 persons employed in the Service component of the economy which includes repair services, personal services, entertainment and recreation, education, religion, professional services, and Public administration. A break down of each of these categories is included in Table E-2. Education seems to be the largest employment factor in this section with 68 employees. Some of the businesses included under this category are such things as hotels, motels, and recreational vehicle parks as well as personal services.

Employment in the recreation and entertainment area will probably increase as time goes on. The recent opening of Discovery Basin, and the continued growth of recreational developments in Granite County will expand employment and help stabilize the county economy.

G. GENERAL

Generally, the future of the Granite County economy looks bright. A great deal will depend on the development pending now and in the near future. Logging of dead wood and post and poles will help. Mining is looking good if the mineral prices will stabilize. Recreation developments at Georgetown Lake and Rock Creek will add to the overall income of the county. It is projected on present outlooks that employment will continue to expand.

The Board of County Commissioners and the Planning Board should help promote the economy of Granite County. They could participate in encouraging the sale of this dead timber, assist in interesting a pole plant operator to start a plant here, and encourage small non-polluting industries such as State Machine Products Co. A variety of employments will make the economy of Granite County much more stable and would certainly expand the tax base with a minimal increase in services.

VI. LAND OWNERSHIP

An analysis of land ownership is the first step in a series of land use studies. Land use studies are conducted to provide a basic data on land characteristics and the various activities that occupy land in the county.

Granite County has five major landowners that are listed in the following table.

Table L-1
Land Ownership

LANDOWNER	ACRES	PERCENT OF COUNTY
National Forest	618,200	54.7
Burlington Northern	8,700	.7
Bureau of Land Management	44,013	3.9
Champion International	31,420	2.7
State of Montana	16,707	1.4
Other Private	390,080	36.7

All of these landowners have land use plans in progress and are formulating land policies.

Most of the major land use change will occur on the land listed as other private. The small private ownerships which can be bought by developers and subdividers.

Figure L-1 shows the land ownership of the various agencies in the county. It should be noted that much "checkerboard"

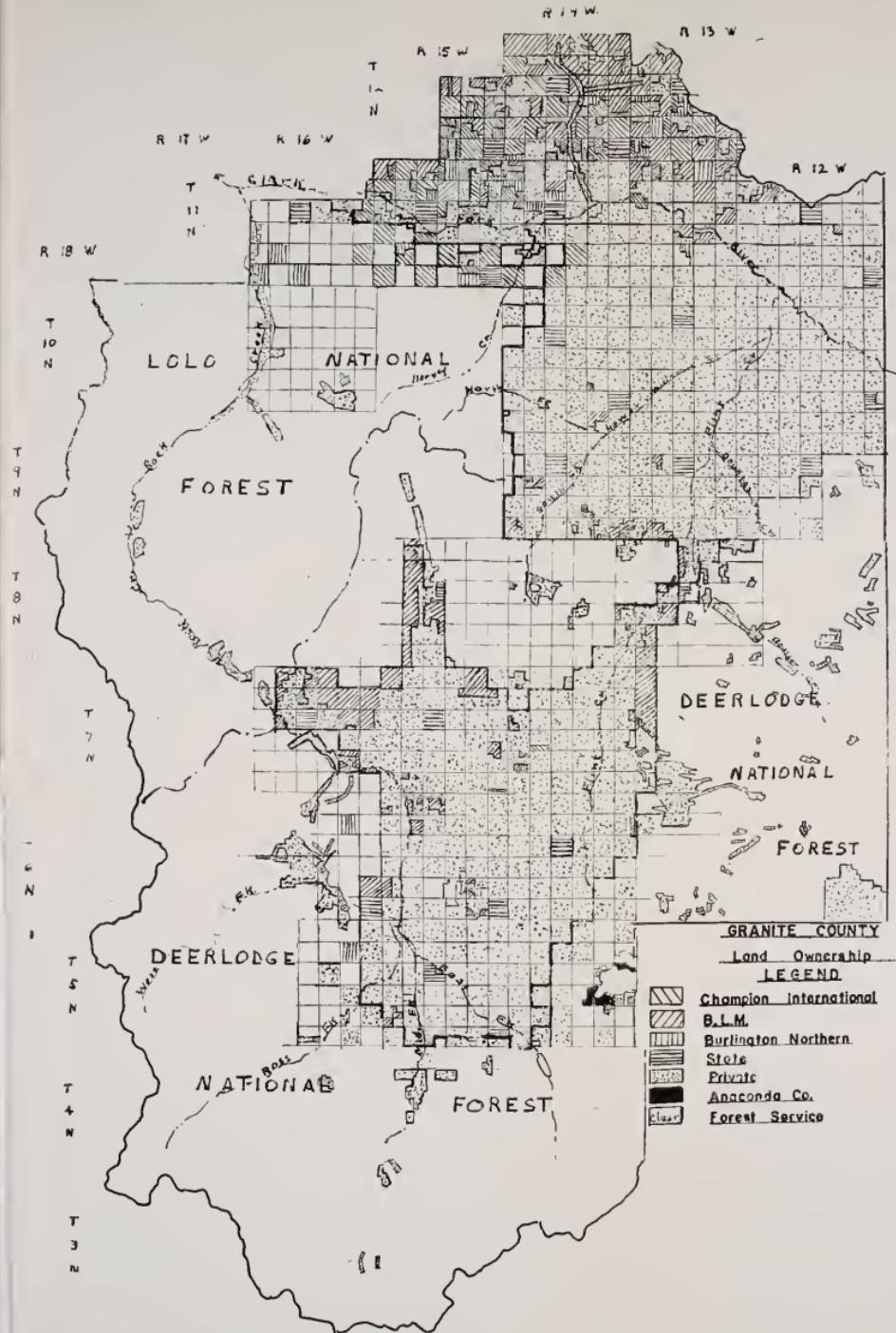
ownership occurs in the county, making it difficult for any agencies to administer their lands without the coordination and cooperation of the other agencies.

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ownership occurs in the county, making it difficult for any agencies to administer their lands without the coordination and cooperation of the other agencies.





XII. PHYSICAL CHARACTERISTICS OF PLANNING AREA

A. CLIMATE

Climate is the sum of the average conditions as they prevail in a given geographic location. Local climate has a strong influence on certain human and economic activities. For example, in Granite County, summer recreational activity can be severely limited by the relatively long sustained-cold winters, the lengths of the growing season is of concern to farmers, heating and air conditioning measures are also directly affected by the local climate.

The lower elevations of Granite County are semiarid. Annual precipitation varies in direct proportion to the elevation. (Refer to precipitation map on page 49). Drummond, with an elevation of 3,948 has an annual precipitation of 12 inches while Philipsburg which is 5,280 feet above sea level has an annual precipitation of 15 inches. The mountainous area ranges from 40 to 60 inches of precipitation, mostly in the form of snowfall.

The area is subject to very low winter temperatures and occasional moderate winds, but only for short duration. This is not a deep snow country except in the high mountain area. The winters are especially long in Philipsburg, and Rock Creek areas, requiring four or five months of continuous feeding of livestock. Snowfall, however, is relatively light in the valley. As the elevation increases, the amount of snowfall increases and the growing season becomes shorter. Frost may occur in any month of the year.

The growing season in the Philipsburg area is about 55 days and is somewhat longer in Drummond at 95 days. Peas, beets, and potatoes can not be grown at elevations over 5000 feet on a commercial basis. Around Drummond and Hall potatoes are grown successfully.

Sources:

U.S. Department of Interior, Clark Fork River Basin, 1959.

Granite County Conservation District, District Program for Granite Soil and Water Conservation District, Philipsburg, Montana, 1963.

Montana Department of Agriculture, Montana Agricultural Statistics-County Statistics, Helena, Montana.

<u>Month</u>	<u>Place</u>	DRUMMOND			GARNET			PHILIPSBURG		
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	Mean Month Temp.	High Temp	Low Temp	Mean Month Temp.	High Temp	Low Temp	Mean Month Temp.	High Temp	Low Temp
January	16.7	57	-48	18.9	49	-35	21.4	58	-35
February	22.2	59	-35	22.7	53	-17	24.6	62	-40
March	29.2	71	-27	24.0	55	-23	30.2	72	-26
April	40.7	83	-1	32.7	69	0	39.8	89	-12
May	48.8	87	10	41.7	75	0	47.5	92	11
June	54.8	95	23	50.3	85	20	54.0	95	22
July	62.2	100	27	58.7	94	28	61.6	98	28
August	60.4	101	25	56.1	94	27	60.1	99	21
September	51.7	91	15	47.1	84	18	51.8	96	-1
October	41.8	83	6	38.8	74	4	43.2	87	-12
November	28.1	66	-40	27.2	57	-32	31.7	72	-30
December	22.0	61	-34	21.7	49	-19	26.2	64	-38
Annual	39.9	101	-48	36.7	94	-35	41.0	99	-40

* For a period of 1938 - 1962

MONTHLY AVERAGE PRECIPITATION

Drummond

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
.63	.55	.60	.76	1.81	2.01	1.09	.88	.91	.70	.74	.59

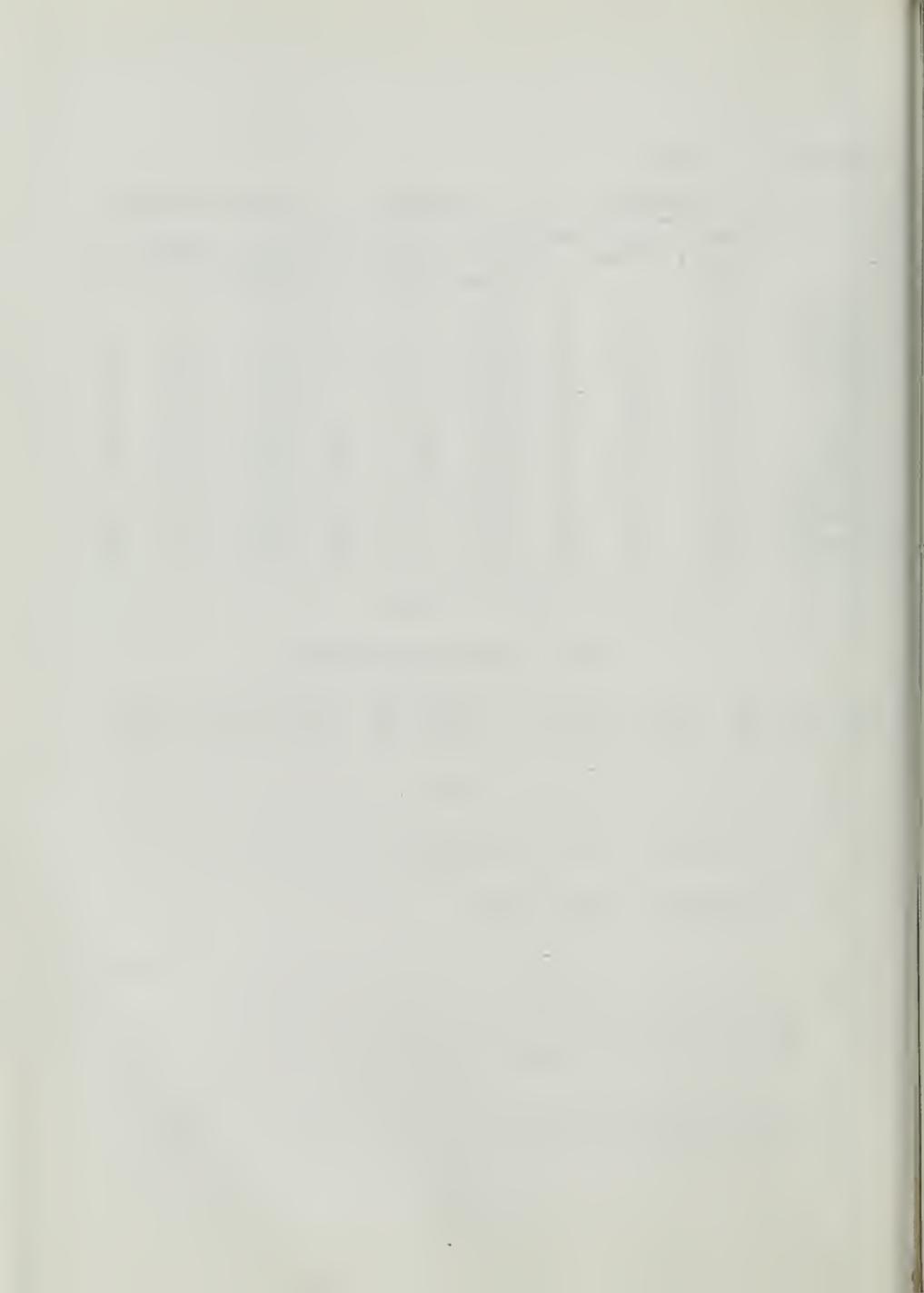
Garnet

2.59	2.08	1.78	2.38	2.94	2.67	1.20	1.41	1.66	1.52	2.22	2.39
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Philipsburg

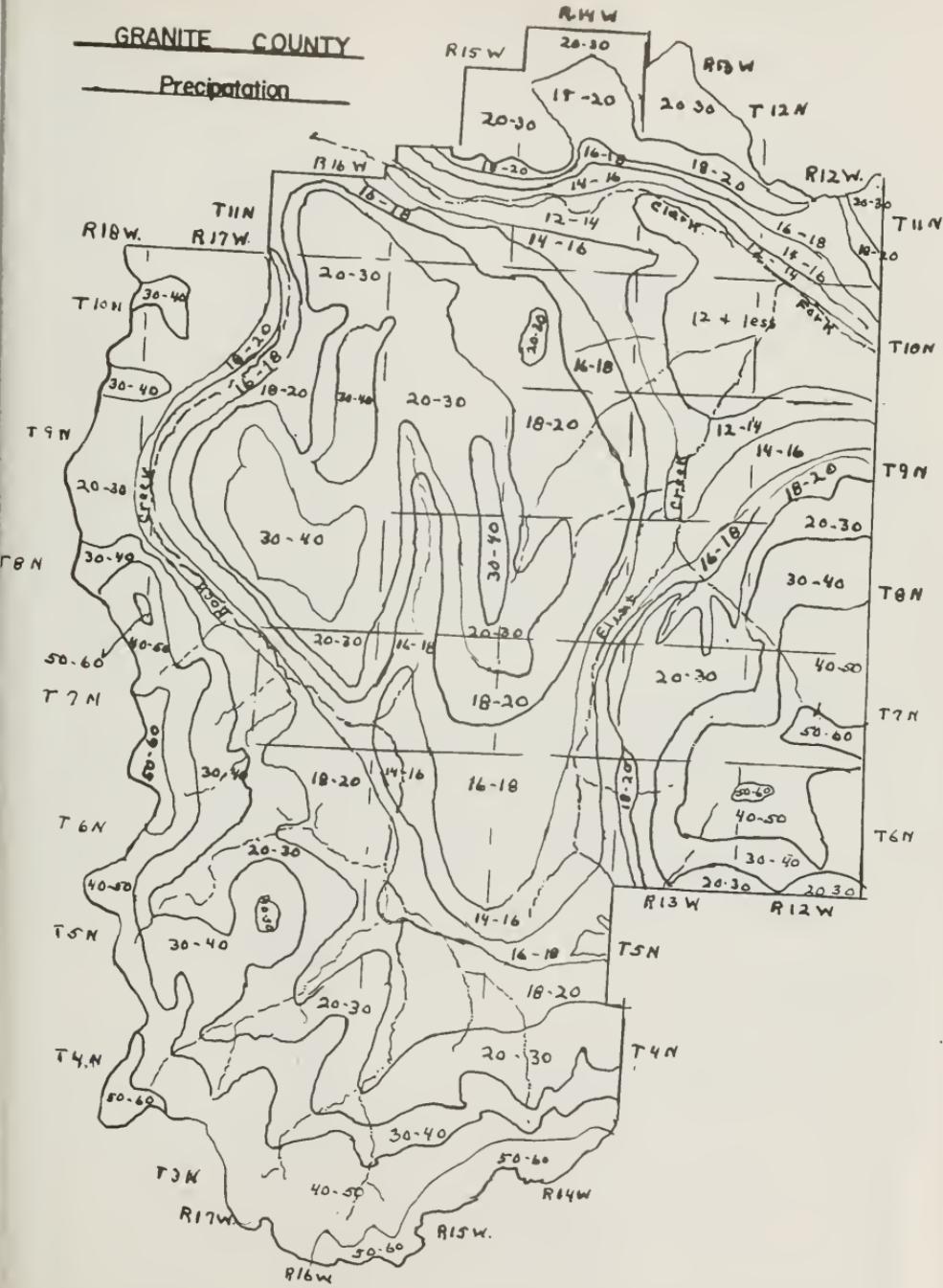
.83	.81	1.05	1.26	2.03	2.94	1.26	1.09	1.23	1.03	.82	.72
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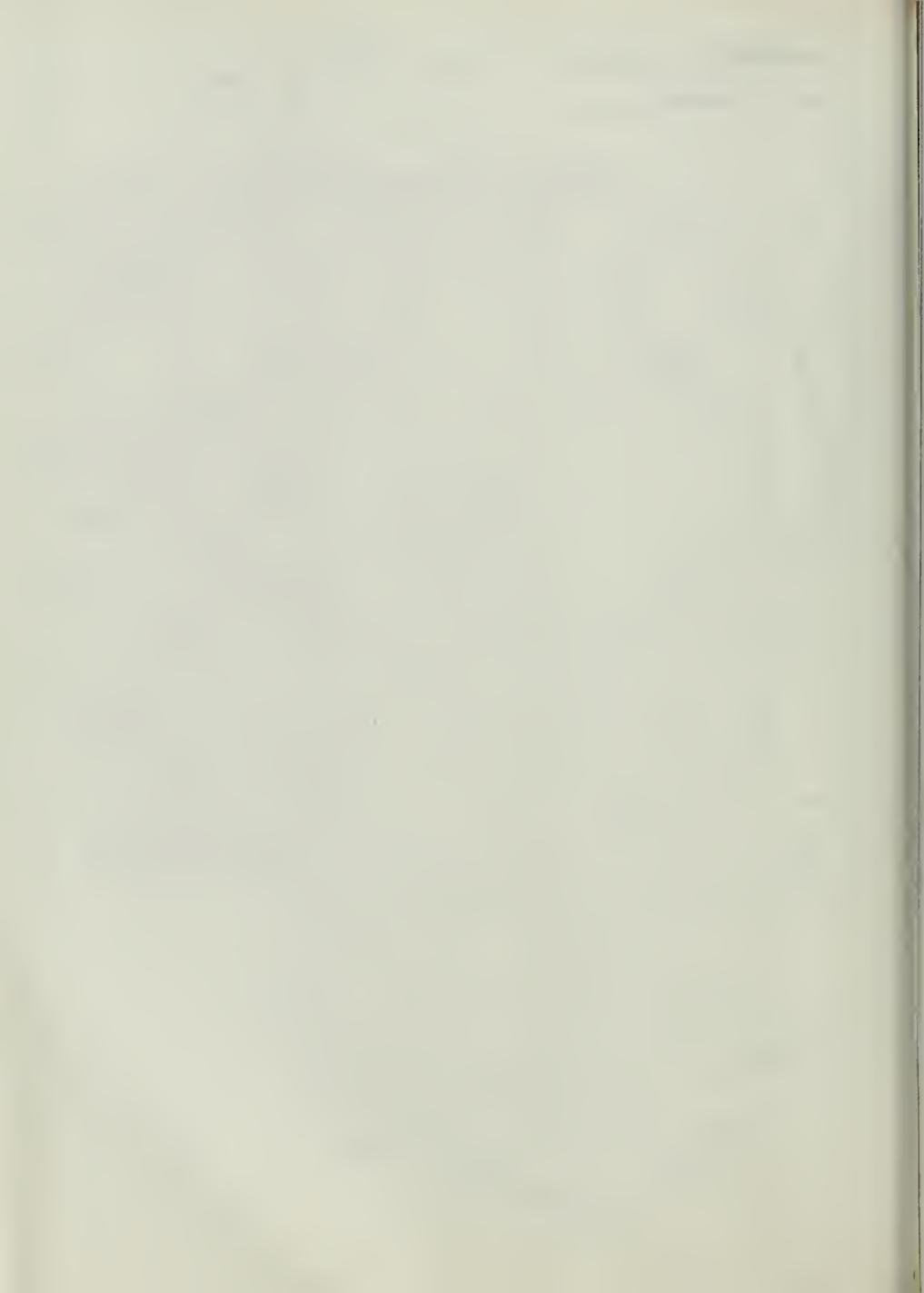
* For a period of 1938 - 1962



GRANITE COUNTY

Precipitation





B. SOILS

The attached map (next page), shows twelve general soil associations for Granite County. An intensive soils survey would show several more types.

Of the twelve types shown, four are classified as soils of the valleys, and valley floors, and eight types of the mountains and mountain foothills.

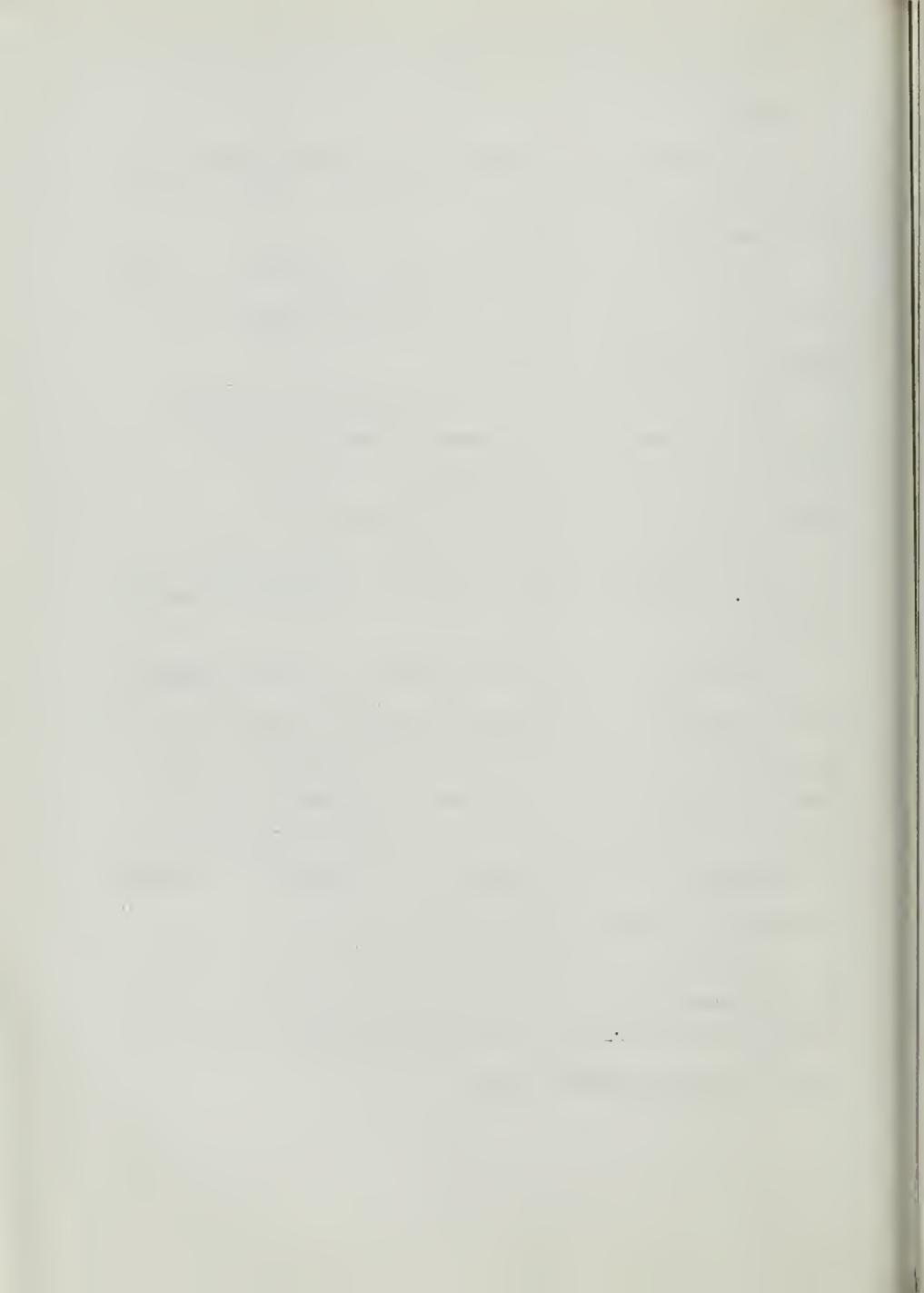
Most of the farm land is in the four soils listed of the valley. Some of this is shown as shallow to moderately deep soil, but poorly drained. Portions of the poorly drained soils are also in the flood plain.

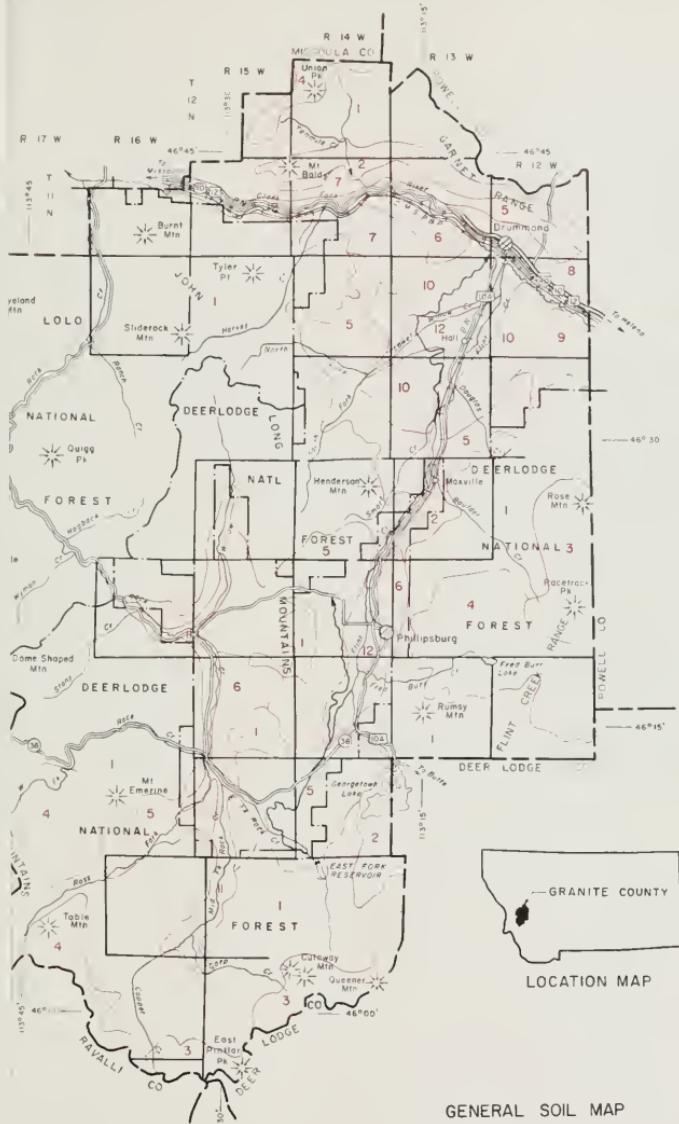
Most of the soils listed as soils of the mountains are in public land administered by either the National Forest or the B.L.M.

Knowledge of the soils and geology is a key to developments of any type. A detailed soil survey is needed for all portions of Granite County where any developments, such as roads, buildings, or any structural improvements are to be planned. It is especially needed in areas to be subdivided.

Additional soil data would also be benificial to ranchers in planning irrigation systems etc.

A soils survey is being made on the public land administered by the Forest Service. Since this includes a large portion of the county, the survey will be very benificial in making surveys on adjacent **private** lands.





GENERAL SOIL MAP
GRANITE COUNTY
MONTANA

APRIL 1972

SCALE 1:500,000

TRANSVERSE MERCATOR PROJECTION
SOURCE: MATERIALS AMS TOPOGS. NL 12-4 & NL 12-5

M7-N-22647-20



GEOLOGY

Geology is the rocks and materials below the soil and its various properties. Some of the properties that are important to consider are erodability, composition, stability, permeability, porosity, flooding hazard and if it is a suitable aquifer.

Most of the narrow valley floors are Q and 1C alluvium, which is sediments deposited from the erosion of the higher terrain. Most of the mountain areas are sedimentary rocks that have been uplifted. There are smaller areas off in the mountainous portion of the county that are intrusive igneous rocks such as batholiths, dikes and sills.

The following pages are in explanation of each of the types of geology found on the Granite County Geology Map. This is a general geology map and is used only as an indicator of what might be found on site analysis if needed before decisions are made on developments.



GRANITE

Geolo



SOIL ASSOCIATIONS

SOILS OF THE MOUNTAINS

- 1** Moderately steep to very steep, shallow to deep, well-drained soils over igneous or quartzite rock of the mountains.
- 2** Steep to very steep, shallow to deep, well to somewhat excessively drained soils over calcareous rock of the mountains.
- 3** Gently sloping to very steep, shallow to deep, well-drained soils of mountain origin. These associations are similar to those in association number one, except that they are mostly in a higher rainfall area and the growing season is generally shorter.
- 4** Moderately steep to very steep, shallow to deep, well to excessively drained soils over igneous rock of the mountains.

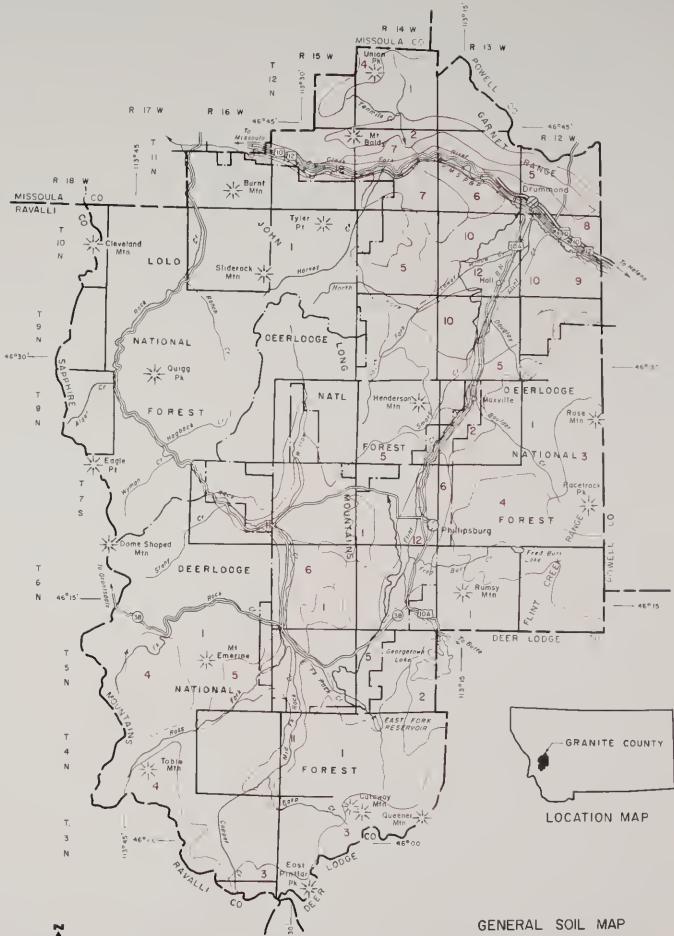
SOILS OF THE MOUNTAIN FOOTHILLS

- 5** Sloping to steep, deep, well to excessively drained soils formed from mixed deposits on the mountain foothills.
- 6** Sloping to steep, shallow to deep, well to somewhat excessively drained gleyed soils over calcareous rock on the mountain foothills.
- 7** Moderately sloping to moderately steep, shallow to deep, well and some-humid excessively drained ground soils over igneous rock on the mountain foothills.
- 8** Gently sloping to moderately steep, shallow to deep, well-drained soils over shale on mountain foothills.

SOILS OF THE VALLEY FLOOR

- 9** Gently sloping to steep, deep well-drained soils formed from loamy sediments in the valleys.
- 10** Nearly level to strongly sloping, deep, well-drained soils formed from alluvium in the valleys.
- 11** Nearly level to sloping, shallow to deep, excessively to poorly drained soils formed from outwash along the valley floor.
- 12** Nearly level, shallow and moderately deep, poorly drained soils formed from recent outwash along the valley floor.

This map is intended for general planning. Each delineation may contain soils different from those shown on the map. Use on site inspection for more detailed decisions.



GENERAL SOIL MAP
GRANITE COUNTY
MONTANA

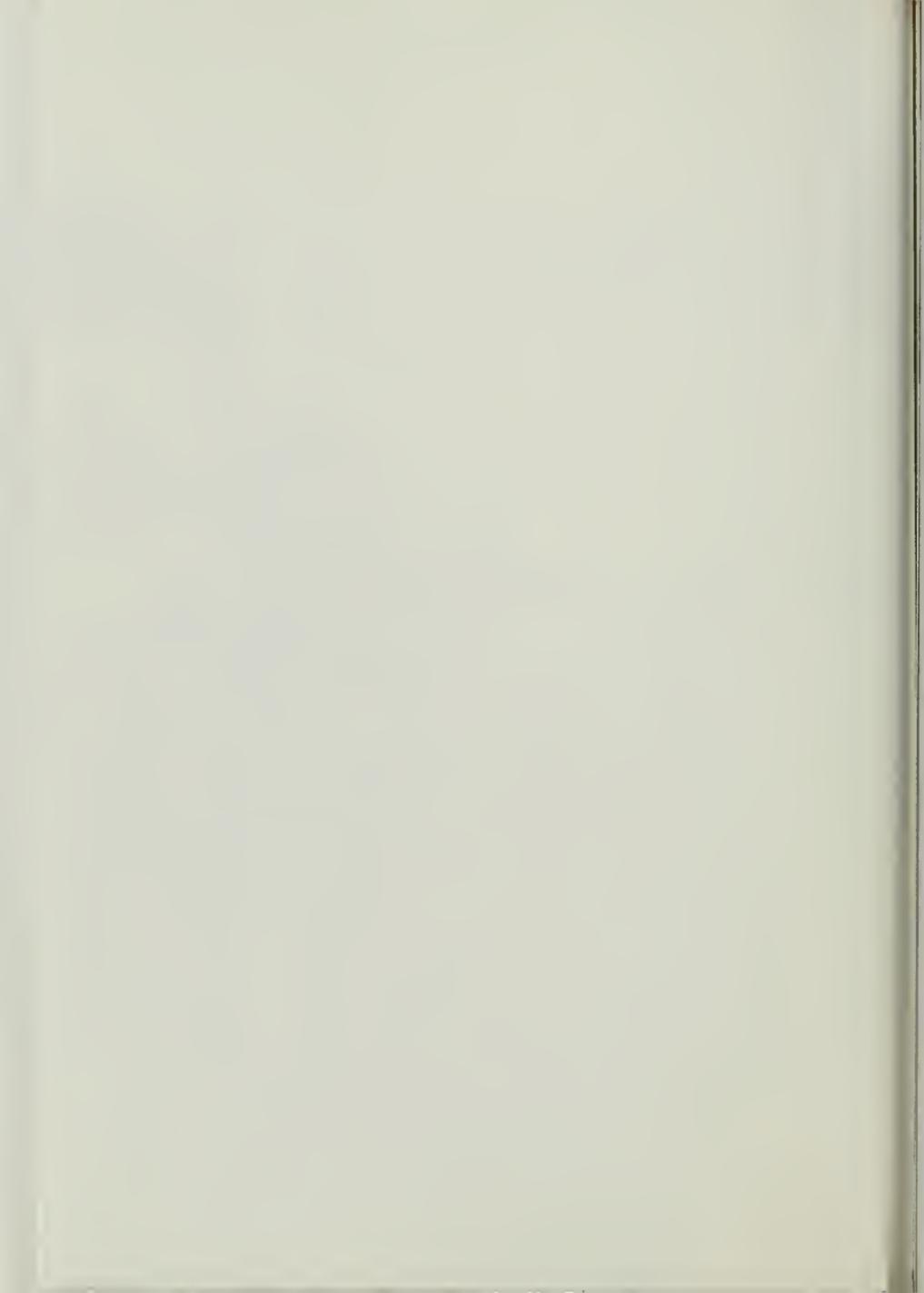
APRIL 1972

SCALE 1:500,000

TRANSVERSE MERCATOR PROJECTION
SOURCE MATERIALS AMS 100005, NL 12-4, B-1112, 7



M7-N-22647-20



C. GEOLOGY

UNIT DESCRIPTION

Qal - Alluvium - includes alluvium, colluvium, some terrace deposits, slope wash, flood plain deposits, alluvial fans.

GENERAL CHARACTERISTICS

1. Age: Quaternary.
2. Heterogeneous unconsolidated sediments ranging in grain size from clay to coarse gravel.
3. Deposits composed mainly of clay, silt, sand, gravel, and pebbles of various lithologies.
4. Usually well sorted and stratified. Attitude of stratification is usually horizontal.
5. Easily eroded.
6. Permeability and porosity vary greatly from excellent to poor depending on amount of clay and silt present.
7. Generally forms shallow aquifers with relatively limited volume of ground water.
8. Qal deposits blanket mainly the flat valley bottoms and form relatively thin veneers over the valley floor. For these two reasons Qal deposits are especially susceptible to pollution.
9. Flooding hazards also exist in areas of this unit adjacent to river channels which are covered with water when the river overflows its banks at flood stages.

UNIT DESCRIPTION

Qg - Glacial Deposits (undifferentiated)

GENERAL CHARACTERISTICS

1. Age: Pleistocene.
2. Heterogeneous, unconsolidated sediments ranging in grain size from clay to boulders..
3. Deposits composed mainly of silt, sand, gravel and cobbles with minor amounts of clay and boulders of various lithologies.
4. Sediments may occur as well-sorted to non-sorted, or stratified to non-stratified sediments.
5. Have high permeability and porosity (good aquifers).
6. Where exposed on surface, are potential aquifer recharge areas.
7. Perched water common in these deposits.

8. Highly susceptible to erosion.
9. Deposits may form low, rounded hills, hummocky topography, knob and kettle topography.
10. Susceptible to sliding, slumping and creep where found on moderately steep to steep slopes.
11. Produces predominantly rocky soils.

UNIT DESCRIPTION

Qgl - Glacioilacustrine deposits, silt and clay

GENERAL CHARACTERISTICS

1. Age: Tertiary to Pleistocene.
2. Unconsolidated to semiconsolidated, stratified sediments. Relatively homogeneous. Are generally pale pink or buff in color and are characterized by their horizontal attitude and by alternating dark and light laminae, commonly 3mm or less in thickness, known as varves.
3. Composed of clay and silt sized detritus.
4. Susceptible to slides, slumping and creep where found on moderately steep to steep slopes.
5. Low permeability and low porosity, extremely poor ground water aquifer.
6. Low resistance to erosion.
7. Forms low, rolling, rounded hills. May be highly gullied resulting in a close space (fine textured) drainage pattern because of high runoff from impermeable sediments.

UNIT DESCRIPTION

Qgm - Glacial moraine deposits - includes lateral, terminal and ground moraines.

GENERAL CHARACTERISTICS

1. Age: Pleistocene.
2. Heterogeneous unconsolidated sediments ranging in grain size from very fine silt clay to boulders.
3. Deposits composed mainly of silt and sand, and of gravel, pebble, cobble and boulder sized rocks of varying lithologies.
4. Qgm deposits occur as nonsorted, nonstratified sediments.
5. Have extremely high permeability and porosity, but are not important as ground water sources because of small areal extent.

6. Nonresistant to erosion. Unstable on any type of slope, particularly if not covered by vegetation.
7. Produce predominately rocky soils.

UNIT DESCRIPTION

Qr - Gravel deposits

GENERAL CHARACTERISTICS

1. Age: Tertiary to Pleistocene.
2. Heterogeneous unconsolidated sediments ranging in grain size from coarse sands to coarse gravels.
3. Deposits composed of gravel with sandy matrix.
4. Moderately to well sorted and stratified.
5. Have high permeability and porosity.
6. Outcrops are potential aquifer recharge areas.
7. Occur in the form of terraces.
8. Essentially stable deposits since they form mainly flat surfaces elevated above the valley floor.
9. Small amount of gullying because of high permeability and small amount of runoff.
10. Form rocky soils.

UNIT DESCRIPTION

Ts - Tertiary Sediments

GENERAL CHARACTERISTICS

1. Age: Tertiary.
2. Lithology - In the northern part of the County, Tertiary Sediments consist largely of volcanic sediments. Easily eroded. Cover a small areal extent. In southern and central part, Tertiary Sediments consist primarily of clays, chiefly montmorillonite. These clays are poorly consolidated and easily eroded. Generally cream to buff colored. Very poor source of ground water.
3. Generally Heterogeneous unconsolidated to consolidated clastic sediments ranging in grain size from clay to boulders. Occur as stratified to nonstratified sediments. Poorly sorted to well sorted.
4. Because of varying lithologies and facies changes within the same stratigraphic unit, permeability and porosity maybe extremely variable from location to location. Expect to find high to low yields of ground water.

5. Erosional characteristics range from non-resistant to resistant; form terraces, low rolling hills, lowlands, and valleys.
6. Susceptible to landslides, slump and creep where found on moderately steep to steep slopes.

UNIT DESCRIPTION

Ssh - Interbedded sandstone and shale

GENERAL CHARACTERISTICS

1. Age: Pennsylvanian, Mississippian, Jurassic, Cretaceous.
2. Heterogeneous, semi-consolidated to consolidated clastic rocks.
3. Interbedded sandstone and shale represents the main lithology in this unit. Thin beds of conglomerate, limestone, silt stone, mudstone and variations in between are also abundant. In general exhibits a complete mixture of lithologies. Generally, fossiliferous and well-stratified.

UNIT DESCRIPTION

Lsh - Interbedded limestone and shale

GENERAL CHARACTERISTICS

1. Age: Cambrian, Devonian, Jurasic, Cretaceous.
2. Heterogenous, consolidated rocks ranging in grain size from very fine to coarse, well stratified.
3. Main lithologies consist of limestone and shale, with minor beds and lenses of calcareous siltstone, dolomite, sandstone, and conglomerate. Some limestone has laminated bedding, other wise, thin to medium bedded.
4. Shales normally appear in colors of green, red, yellow and gray. Limestones generally appear in shades of gray.
5. Unit has a low permeability and porosity since both of the main lithologies are impermeable to water. Expect small yields of ground water, if any. Main source of ground water in this unit would be from fractures and joints.
6. Unit excludes layers which are alternatingly weak then resistant to erosion; therefore may form low rolling hills with scattered limestone outcrops, ridges with gentle to moderate slopes, limestone outcrops on top and possible hog backs.
7. Gullying may be minor or extensive depending on attitude of beds.
8. Potential landslide hazard is present where unit occurs on steep slopes because of alternation between weak and resistant beds.

UNIT DESCRIPTION

a - Argillite, interbedded argillite and quartzite, quartzitic argillite, argillaceous quartzite

GENERAL CHARACTERISTICS

1. Age: Precambrian (unit belongs entirely to Belt Supergroup).
2. Consolidated, heterogeneous clastic rocks. Generally very fine to fine grained (clay and silt sized particles). Well stratified.
3. Structural features that characterize this type of rock are ripple marks, mud cracks, salt-crystal casts, scour and fill channels, graded bedding, cross bedding in the more quartzitic types, mud-chip, breccia (flat pebble conglomerates), raindrop impressions and wavy laminations varying in color resulting from differences in particle size or composition or both.
4. Colors are numerous. This unit occurs in various hues of gray, brown, white, yellow, red, purple and green.
5. Tends to form blocky fracture patterns.
6. Highly resistant to erosion and landslides. Susceptible to mechanical weathering which causes talus slopes.
7. Has low permeability and porosity. Expect low yields of ground water. Water moves through secondary openings such as joints and fractures and not through the rock itself. These joints and fractures have a small storage capacity and serve mainly as conduits. Therefore, water in this unit may be depleted rapidly.
8. Connate water is also common in this rock unit. Depending on size of reservoir, yields only a fixed, limited supply of ground water.
9. Forms mountains, rolling hills, cliffs, ridges.
10. Most plentiful unit in region.
11. Generally stable material for any type of construction or building as long as either one does not undercut the dip slope.

UNIT DESCRIPTION

Ls - Carbonate rocks, to include limestone, dolomite and marble

GENERAL CHARACTERISTICS

1. Age: Precambrian, Paleozoic.
2. Heterogeneous to homogeneous, consolidated rock. Generally fine to medium grained. Well stratified, massive bedding common.

3. Three types of limestone:
 - A. Precambrian limestone
Generally is an impure limestone (intermixed with other lithologies). Contains argillite, arenaceous and argillaceous limestone, dolomite, some quartzite. Commonly laminated or thin bedded, but does occur in thick to massive bedding. Mud cracks and ripple marks also common.
 - B. Paleozoic limestone - Generally occurs as pure limestone or dolomite or a mixture of both. Bedding ranges from thin to thick to massive. Commonly fossiliferous. Dolomite, which is a magnesius limestone, is quite common in the Paleozoic rocks.
 - C. Marble is a contact metamorphic rock or limestone. Generally is white in color. May occur as an alteration product of limestone or dolomite next to igneous intrusions. Usually, occurrences are small in volume and extent.
4. Colors of both limestones range in various shades of gray. The precambrian limestones may have other colors such as red, green and tan because of different lithologies within them.
5. Highly resistant to erosion and landslides. Susceptible to mechanical weathering which causes talus slopes.
6. Low permeability and porosity. Expect low yields of ground water. Water moves through secondary openings such as joints and fractures and not through the rock itself. These joints and fractures have a small storage capacity but serve mainly as conduits. Therefore, water in this unit may be depleted rapidly.
7. Soluble in water; forms sink holes, caves, karst topography. Has interior drainage. This description is more applicable for the Paleozoic rocks than for the Precambrian rocks.
8. Unit forms mountains, hills, ridges and cliffs, (Mississippian Limestones are particularly good cliff formers.)
9. Generally stable material for any type of construction or building.

UNIT DESCRIPTION

Q - Quartzite

GENERAL CHARACTERISTICS

1. Age: Precambrian, Pennsylvanian, Permian.

2. a. Precambrian:
 1. Relatively homogeneous consolidated, clastic rocks, ranging in grain size from fine to coarse
 2. Occurs in various colors: pink, red, purple, brown gray, green, and numerous shades in between. Usually weathers to a rusty brown or purple.
 3. Detrital muscovite is found between bedding planes in Garnet Range Formation.
 4. Forms blocky talus slopes. Cross bedding and ripple marks are common.
 5. Bedding is usually thick to massive.
- b. Pennsylvanian, Permian Quartzites:
 1. Homogeneous consolidated rock ranging in grain size from fine to medium.
 2. Color ranges from white to tan, weathers to rusty brown or yellow brown.
 3. Poorly bedded to massive. Ripple marks and cross bedding are not common.
 4. Generally, grains have vitreous luster.
 5. Is a ridge former. Weathers in large blocky slabs.
3. Very resistant to erosion and landslides.
4. By definition, a quartzite is a metamorphosed sandstone or a sandstone cemented together by silica. In either case, pore space between grains is essentially eliminated. Thus quartzite has both very low permeability and porosity, hence is a very poor conductor and source of ground water. Fracture and joint patterns are also less well developed than in the argillite unit. Therefore storage and transmission of ground water by this mechanism is severely hampered. In general, expect only low yields of ground water if any.
5. Stable material for any type of building or construction.
6. Forms mountains, hills and ridges.

UNIT DESCRIPTION

Igi - Plutonic (intrusive) igneous rocks, to include batholiths, stocks, dikes and sills.

GENERAL CHARACTERISTICS

1. Age: Predominately Precambrian, Cretaceous, Tertiary.
2. Rock types named below indicate composition rather than lithology. It should be noted that igneous intrusive rocks occur in a great variety of compositions. To describe each composition would be useless, especially since they are mapped as one unit; they can, however, be broken down into two very generalized units:
 - A. Stocks and batholiths: (generally found on the map as the large, red, somewhat circular areas). Compositions are usually granitic (granite) in nature. Three of the most common rocks are quartz monzonite, granodiorite and granite.

B. Sills and Dikes: (generally found on the map as the red, small, narrow, elongated areas). General compositions range from ultrabasic, to basic, to gabbroic. Common rocks found in region are diorites, dacites, doabase and gabros

3. Consolidated, generally homogeneous rock. Textures are usually medium to coarse grained and porphyritic. Stratification and fracture patterns (both are characteristic of sedimentary rocks) are absent. Bedding is massive. Joint patterns may be present, particularly in granitic bodies.

4. For reasons stated in number 3, expect very low permeability but not necessarily a low porosity. Igneous intrusive bodies are generally poor sources of ground water. In stocks and batholiths, however, ground water may circulate in appreciable quantities through interconnected joints and fissures. Dikes and sills are usually too small in areal extent and mass to be of any importance, but would have the same ground water properties as batholiths and stocks.

5. Erosional and topographic considerations:

- A. Batholiths and stocks: Highly resistant to erosion in areas of high precipitation, non-resistant to erosion in areas of low precipitation or semi-arid to arid climates. Forms mountains ranging in form from rounded to very rugged. Also may form rolling hills of subdues relief. Cliff former. Areas of domal intrusion may produce radial drainage patterns. Homogeneous nature of plutons may produce a dendritic drainage pattern and a uniform vegetation pattern.
- B. Sills & Dikes: Generally too small in areal extent and mass to make any major contribution to topographic features. Erosion varies from non-resistant to resistant. Where dike or sill material is more resistant to erosion than that of the country rock, a ridge (in form of small narrow band) or cliff may form. Where the opposite is true, rectilinear depressions, gullies or even small valleys may form.

6. Batholith and stock material is generally stable for any type of building or construction, although drainage would present a problem because of its impermeability. Sills and dikes are again too small in areal extent for consideration except locally.

7. Soils in batholith and stock terrain are composed mainly of a granitic regolith. Very permeable and highly porous, nonresistant to erosion.

UNIT DESCRIPTION

Ige - Igneous volcanic (extrusive) rocks, to include lava flows, volcanic breccias, agglomerates, tuffs and any other pyroclastic deposits.

GENERAL CHARACTERISTICS

1. Age: Primarily Cretaceous, Tertiary.
2. Consolidated to unconsolidated rocks, generally homogeneous.

3. Rock types named below indicate composition rather than lithology. Rocks commonly found in the region are basalt, latites, quartz latites, andesite and rhyolite.
4. Textures range from very fine to coarse grained. The fine grained texture is more predominant. Porphyritic textures and flow structures also are common.
5. Lava flows may produce lobate patterns and hummocky topography. Generally lack joint patterns. This type of unit usually produces irregular topography.
6. High permeability and porosity, but is a poor ground water source because of internal drainage. Likewise, it lacks surface drainage patterns because of internal drainage. Exception: Tuffs form blanket patterns and usually produce a dendritic drainage pattern.
7. All rock types mentioned are fairly resistant to erosion except for tuffs.
8. Vegetation tends to be scarce on this type or unit.
9. Generally stable material for any type of building or construction except for tuffs and other pyroclastic rocks.
10. Stable to unstable on steep slopes.

D. TOPOGRAPHY AND WATER FEATURES

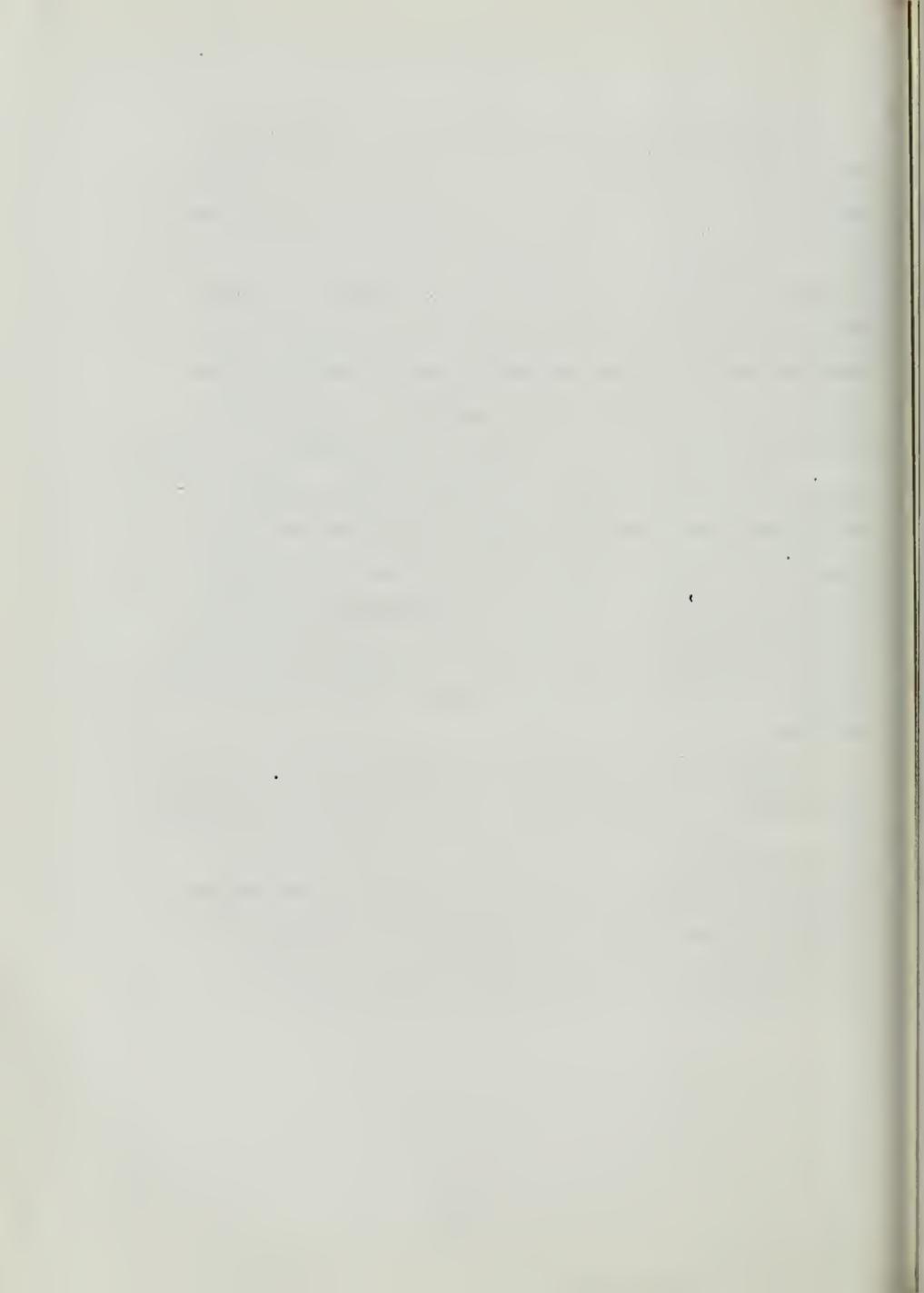
A large portion of Granite County can be classified as mountainous or foothill terrain. Approximately 12 percent of the area of the county has a slope of less than 10 percent, and 8 percent has a slope from 10 to 20 percent. This leaves 80 percent of the county area 20 percent and over, which is generally to steep a terrain for developments.

All of Granite County drains into the Clark Fork River. A small portion of the land area is north of the Clark Fork River. This area is steep with several short drainages that flow directly into the Clark Fork. The only farm land north of the river is the valley bottom and some adjacent benches where sprinkling irrigation is used.

There are two main drainages south of the Clarks Fork. They are Flint Creek and Rock Creek. Rock Creek, which drains the major portion, has four main tributaries, namely the Ross Fork, West Fork, East Fork and Middle Fork. Large portions of Rock Creek and its tributaries are fast flowing streams with narrow valleys. The farm land is limited mostly to the wider portions of the valley bottoms. The headwaters of the Rock Creek tributaries flow from either the Continental Divide or the Sapphire Mountains. They are important sources of water for the Clarks Fork drainage.

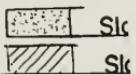
The Flint Creek drainage takes in all of the east portion of the county except a small portion in the south-east corner which drains directly into Warm Springs Creek. Flint Creek is more of a meandering stream than Rock Creek. A large portion of the crop land in the county is in the Flint Creek Drainage. Water for irrigation of the crop land in the Flint Creek drainage is partly supplied from the East Fork and Willow Creek reservoirs. Although the East Fork reservoir is in the Rock Creek drainage, all the water stored there is used in the Flint Creek drainage. The Willow Creek reservoir supplies additional water for lower Flint Creek. Water from upper Flint Creek, stored in Georgetown Lake is also used for irrigation in Flint Creek. A considerable portion of bench land on both sides of Flint Creek is irrigated with water stored in these reservoirs.

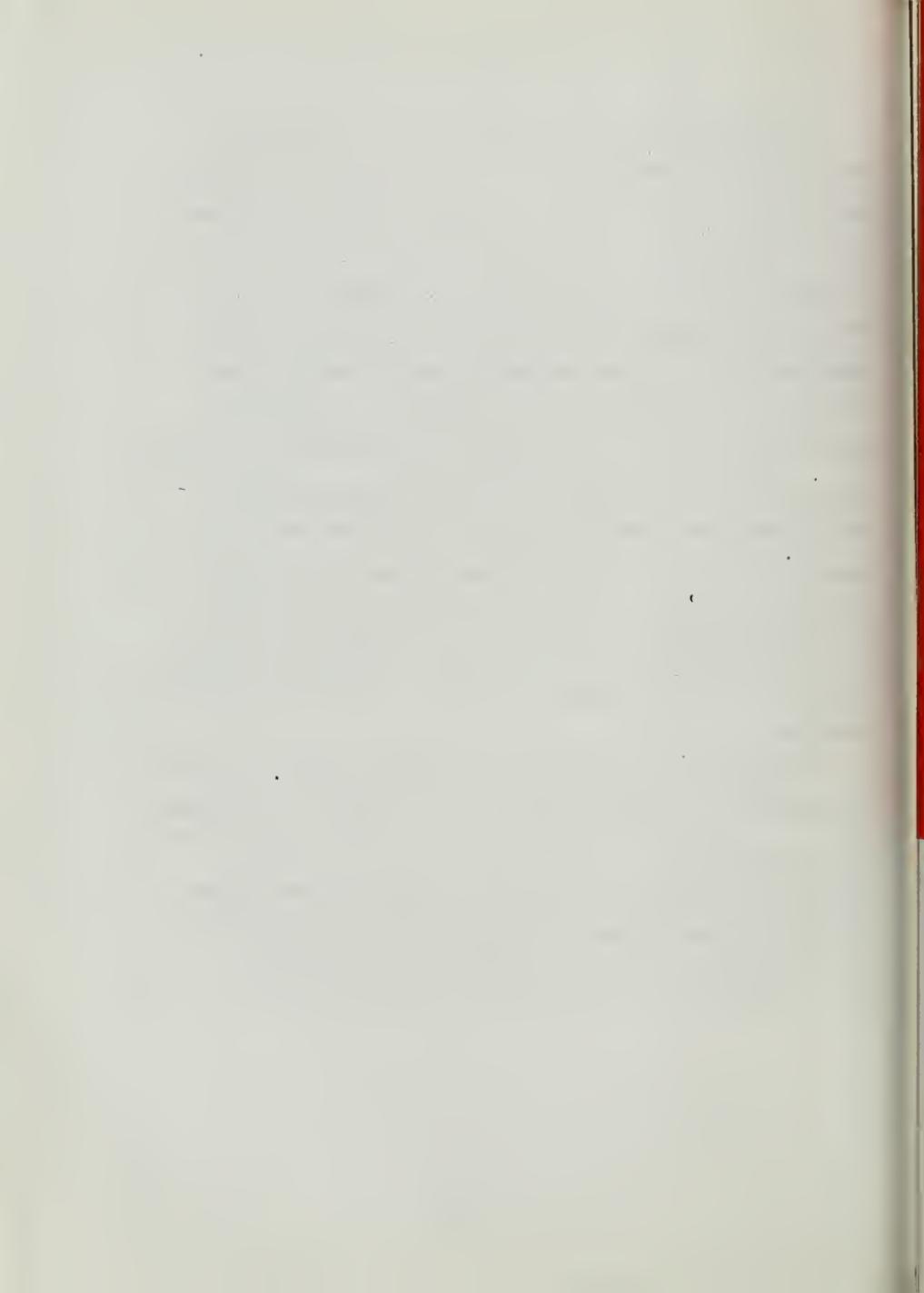
In general, the ranching and farming in Granite County is dependant to a large degree on water produced and stored in the mountains. At present there is a close balance between land under cultivation and water available during irrigation time. There is an abundance of additional water available for storage during spring run off.



GRANITE CO

LEGEND





GRANITE COUNTY

Geology Map

R 17 W R 16 W

R 15 W

R 14 W
MISSOULA CO

R 15 W

R 12 W

MISSOULA CO
RAVALLI

T 11

N

R 18 W

T 10

N

T 9

N

T 8

N

T 7

N

T 6

N

T 5

N

T 4

N

T 3

N

RAVALLI CO

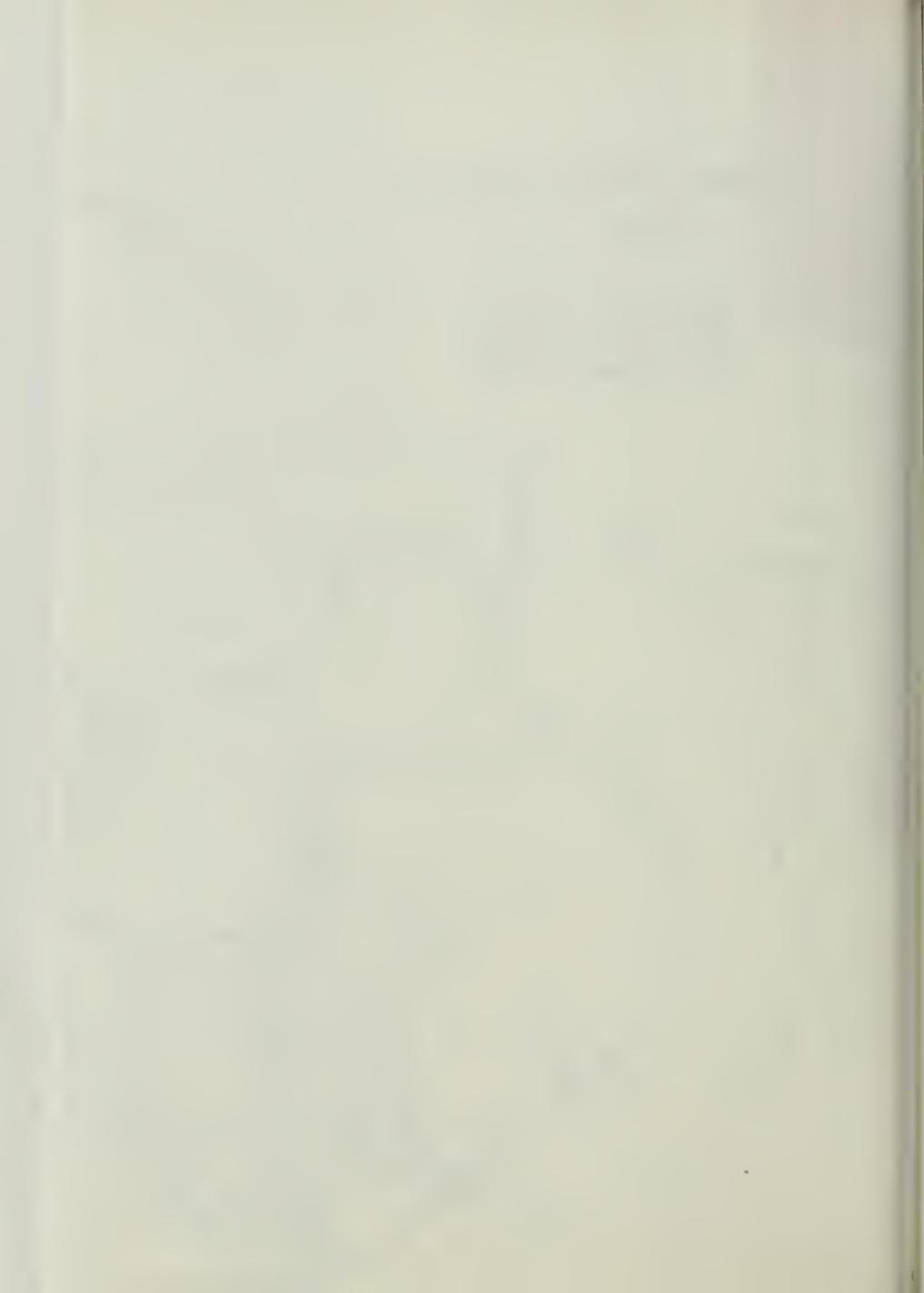
DEER LODGE CO

R 14 W
MISSOULA CO

R 12 W

POWELL CO

- 1 Qaf
- 2 Qg
- 3 Qgl
- 4 Qgm
- 5 Qr
- 6 Ts
- 7 Ssk
- 8 Lsh
- 9 a
- 10 Ls
- 11 Q
- 12 Ig
- 13 Ige



XIII. TRANSPORTATION

Transportation is a problem in portions of Granite County, as it is in other rural areas where the population is small and road distances are considerable. The tax base is not large enough to provide necessary services and needed improvements. This could become more of a problem if the present trend of year long residents moving into the more remote areas continue.

A. AIRPORTS:

There are no commercial airline services in Granite County. The nearest air carrier airports (with scheduled air carriers) are in Butte and Missoula.

Existing airport services are two county utility airports, one south of Drummond, and one Southwest of Philipsburg. The airport at Philipsburg is improved with lights and a 3600 foot paved runway. There are six private hangers at this airport. The Drummond airport is unimproved, with no lights and a graveled runway. This airport is not being used to any great extent.

A limited amount of commercial flying service is available from the Philipsburg airport.

The Philipsburg airport will continue to play an important part in providing safe and speedy transportation when needed by local residents, as well as helping promote interest in the county.

B. BUS:

Granite County is serviced by both the Intermountain Bus Lines, and Greyhound Bus lines. Intermountain has two busses, daily, each way through Philipsburg and Drummond to Missoula and Butte. These busses will pick up or discharge passengers at any point enroute in Granite County. This bus line also provides a service of hauling a limited amount and variety of freight to both Philipsburg and Drummond.

There are three Greyhound busses daily, traveling both east and west through Drummond. These busses travel Interstate 90.

There is also a chartered Intermountain bus from Anaconda to Discovery Basin on week-ends during skiing season.

C. RAILROADS:

There are two operating railroads that serve portions of Granite County. The Burlington Northern; Chicago Milwaukee St. Paul and Pacific, main lines both run through Drummond along the Clark Fork river. The Burlington Northern also has a spur line to Philipsburg, which hauls freight in carload lots twice weekly, to their trunk line in Drummond. This line does not deliver freight to Philipsburg except in carload lots, or an occasional part carload lot.

There is no passenger train service in Granite County. The Amtrack does not stop in Drummond. The nearest point for passenger train service is a flag stop at Garrison, and regular scheduled service in Butte and Missoula.

The Chicago, Milwaukee, St. Paul and Pacific freight depot in Drummond is open only September 15 through December 15 each year, and provides only limited freight service during this time. The remainder of the year there are no services provided by this Company.

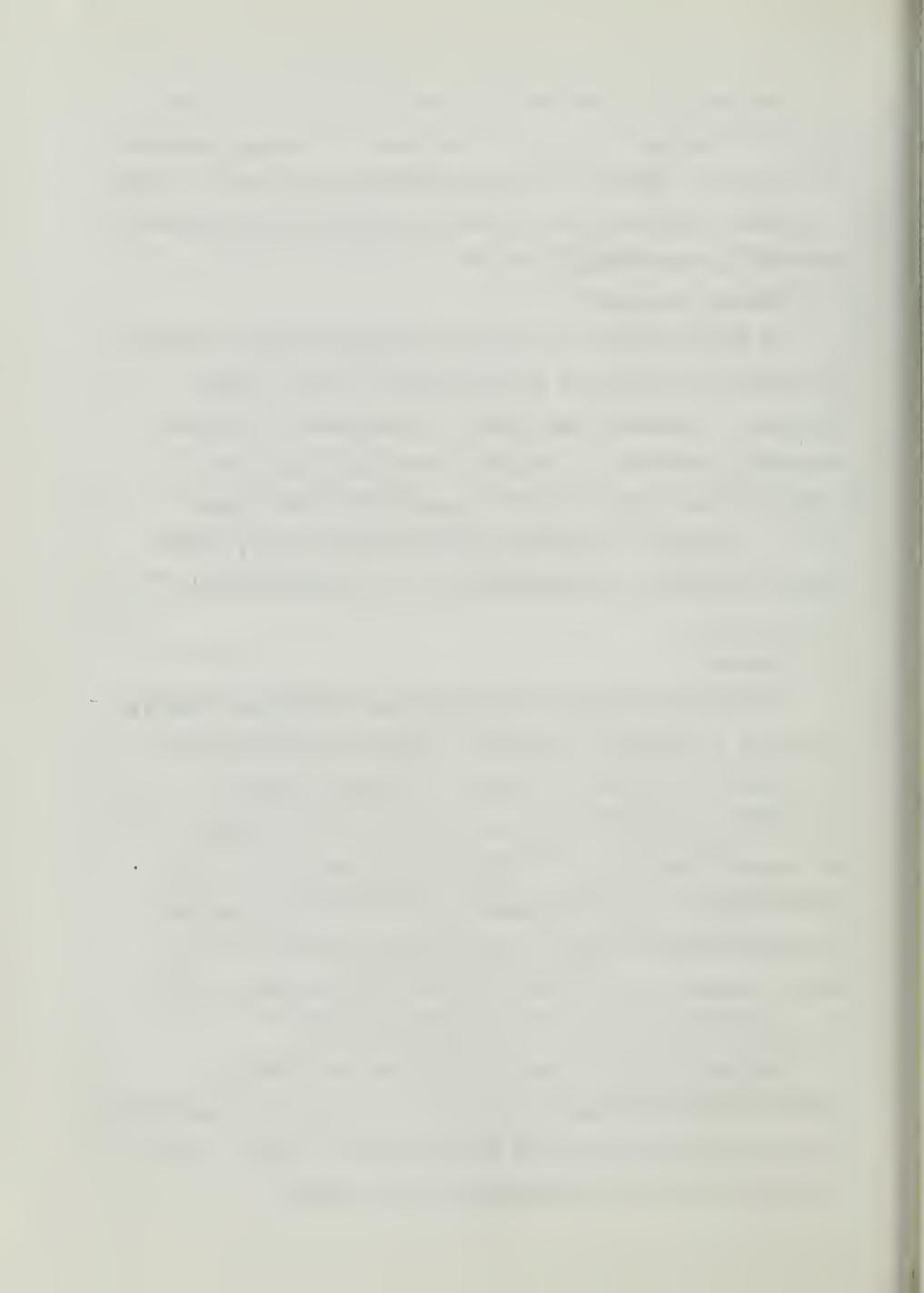
D. FREIGHT TRANSPORT

At the present time, the only freight transport service provided for Philipsburg is from Butte. This is being provided on Wednesday and Friday of each week on a class B-permit. This may be changed in the near future to a class A-permit, which will be scheduled and run 3 days a week. There is no freight transport service at present between Drummond and Philipsburg or to any other portion of the county.

E. HIGHWAYS

The Federal Highway Administration recommends classifying roads as principal arterials, minor arterials, major collectors, and minor collectors. Principal arterials provide for movement across and between large sub-parts of the region, serving both through traffic and local trips. Minor arterials provide movement within smaller areas and serve more local traffic requiring direct access to land users. Access or local roads do not serve through traffic, but only provides access to abutting land users.

The map on the following page shows the functional classification of Granite County roads. The circled numbers on the map refer to location of estimated daily traffic volume as shown on the sheet (ESTIMATED TRAFFIC VOLUME).





W. P.

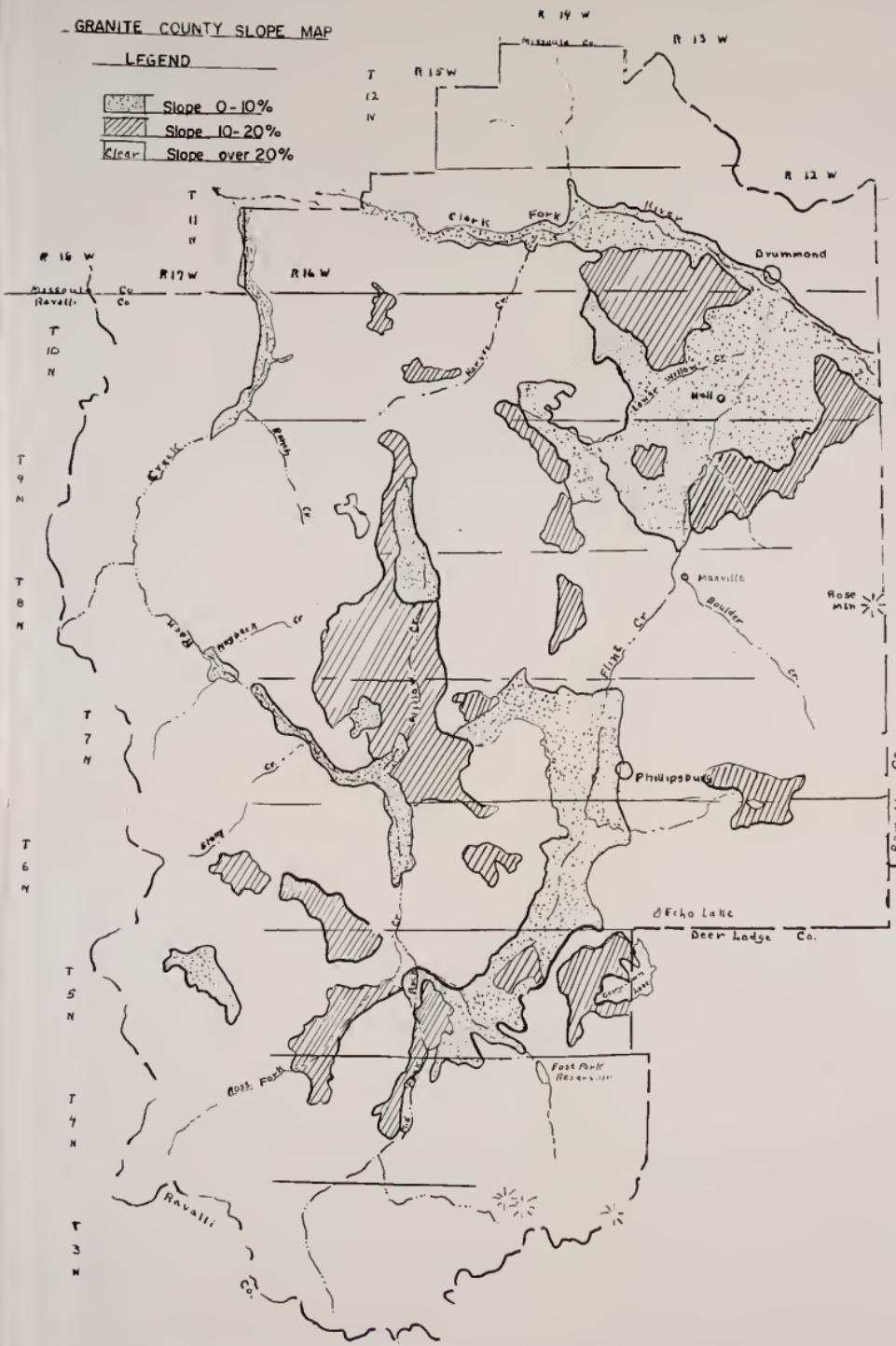
ESTIMATED TRAFFIC VOLUME

Map No.	Volume				Map No.	Volume	
	1960	1970	1972	1990		1972	1990
1	674	854	863	1470	15	50	
2	344	481	504	860	16	108	
3	263	443	450	770	17	90	
4	390	494	500	850	18	30	
5	233	369	385	650	19	175	
6	367	554	579	980	20	170	
7	370	512	545	930	21	155	
8		3072			22	98	
9		3177			23	58	
10		2657			24	54	
11		3185			25	64	
12		243			26	66	
13		43			27	815	
14		164			28	373	

GRANITE COUNTY SLOPE MAP

LEGEND

- Slope 0-10%
- Slope 10-20%
- Clear Slope over 20%



ESTIMATED TRAFFIC VOLUME

Map No.	Volume				Map No.	Volume	
	1960	1970	1972	1990		1972	1990
1	674	854	863	1470	15	50	
2	344	481	504	860	16	108	
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10		2657			24	54	
11		3185			25	64	
12		243			26	66	
13		43			27	815	
14		164			28	373	

PRESENT ROAD CLASSIFICATION AND INVENTORY

Facility	Functional Classification	Section	Limits	Length	Sur. Type	Ave	
						Mile	Wid.
I-90	Interstate	Powell County	Drummond	7.0	paved	76'	31
I-90	" "	Drummond	Msla Co. line	21.7	"	"	31
FAP-19	Minor Arterial	Deer Lodge Co. line	Drummond	36.0	"	24'	5
FAP-35	Major Collector	U.S. 10A	Trout Cr. divide	7.0	"	30'	1
FAP-35	" "	Trout Cr. divide	N.F. Bdry	6.8	gravel	28'	1
FAP-35	" "	N.F. Bdry	Ravalli Co. line	14.1	"	11'	
FAS-271	" "	I-90 Frontage road	Powell Co. line	5.9	"	20'	
FAS-348	" "	Rock Cr. Div.	Gillies Bridge	7.1	gravel	27'	
FAS-348	" "	U.S. 10A	Rock Cr. Divide	7.2	paved	24'	1
FAS-512	Minor Collector	U.S. 10A (Hall	East	1.9	paved	28'	1
FAS-513	" "	U.S. 10A (Hall	West	2.5	"	28'	1
FAS-513	" "	End of Pavement	West	4.8	gravel	16'	
FAS-513	" "	End of 16' Sec	West	2.9	"	12'	No

TOTAL MILEAGE BY FUNCTIONAL CLASSIFICATION

Functional Class.	Mileage	1970	Sub-total	Mileage	1990	Sub-t
Interstate 90	28.7		28.7		28.7	28.
Principal Arterial	--		--		--	--
Minor Collector FAP	36.0		36.0		36.0	36.
Major Collector FAP	28		48.2		28	
" " Non FA	20.2				20.2	108.
Minor Collector FAS	12.1		12.1		12.1	54.
" " Non FA					42.2	
Local Road FAP					17.7	446.
" " Non FA					429.2	
Grand Total						673.

All of that portion of Interstate 90 in Granite County has been completed. The two interchanges in the county are located at Drummond and west of Bearmouth. These serve the County fairly well, except there is a portion of land west of the Bearmouth Interchange which became isolated when the interstate was constructed. No frontage road is provided for this section.

Highway 10A, which is a minor arterial, serves a large segment of the county as well as being the shortest route from Anaconda to Missoula. An estimated 90 percent of the county population lives within 12 miles of this Highway. In 1972 the average daily traffic was 547 vehicles. Seasonal traffic is much higher than this. The Discovery Basin Ski development has, and will continue to increase winter traffic on a large section of this Highway. Logging and chip hauling has also increased truck traffic. The projection for the year 1990 is 810 vehicles daily.

Portions of Highway 10A are substandard. The portion from Maxville to the new portion south of Drummond is narrow with some bad curves. It has insufficient base to withstand heavy traffic. The rock slide area of the Flint Creek hill is very hazardous during the spring thaw and rainy seasons. Betterment of this highway would divert a considerable amount of tourist and other traffic through Granite County that by-passes this route due to the poor condition. It is recommended that Deer Lodge and Granite Counties make a combined effort to get this road improved.

The portion of the Skalkahoe road FAP #35 from the new bridge across West Fork to the Bitterroot divide is very rough and rocky. In dry weather, there is also a dust problem. The Skalkahoe is a scenic route, that if constructed and maintained to an acceptable standard, would bring additional summer tourism in the county.

According to the 1970-1990 state functional classification, as shown on the map on the following page, the Rock Creek road is all classified as a major collector. The portion from the Gillies bridge to the Missoula County line is not eligible for any Federal aid. At present, there is considerable disagreement between agencies, interested groups, and individuals as to type of road needed etc. The solving of these differences should be given high priority by all concerned, so a road program can be established. At present, there are portions that are narrow, with blind corners and unsafe for the heavy summer traffic. A dust problem also develops during dry weather.

The up-dating of signs to meet uniform standards as set by the state will be accomplished by the end of 1975.

F. COUNTY ROADS

At this time the Planning Board does not want to set priorities for county road improvement, although it would be beneficial to the county to have a road improvement priority system established. There are some roads that are receiving enough use that widening and graveling is necessary to maintain a safe road. It is recommended that the county Commissioners, the Road foremen and the Planning Board work up a system of road improvement for the county.

GRANITE COUNTY

TRANSPORTATION SYSTEM 19

LEGEND

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XIV. PUBLIC AND COMMUNITY FACILITIES

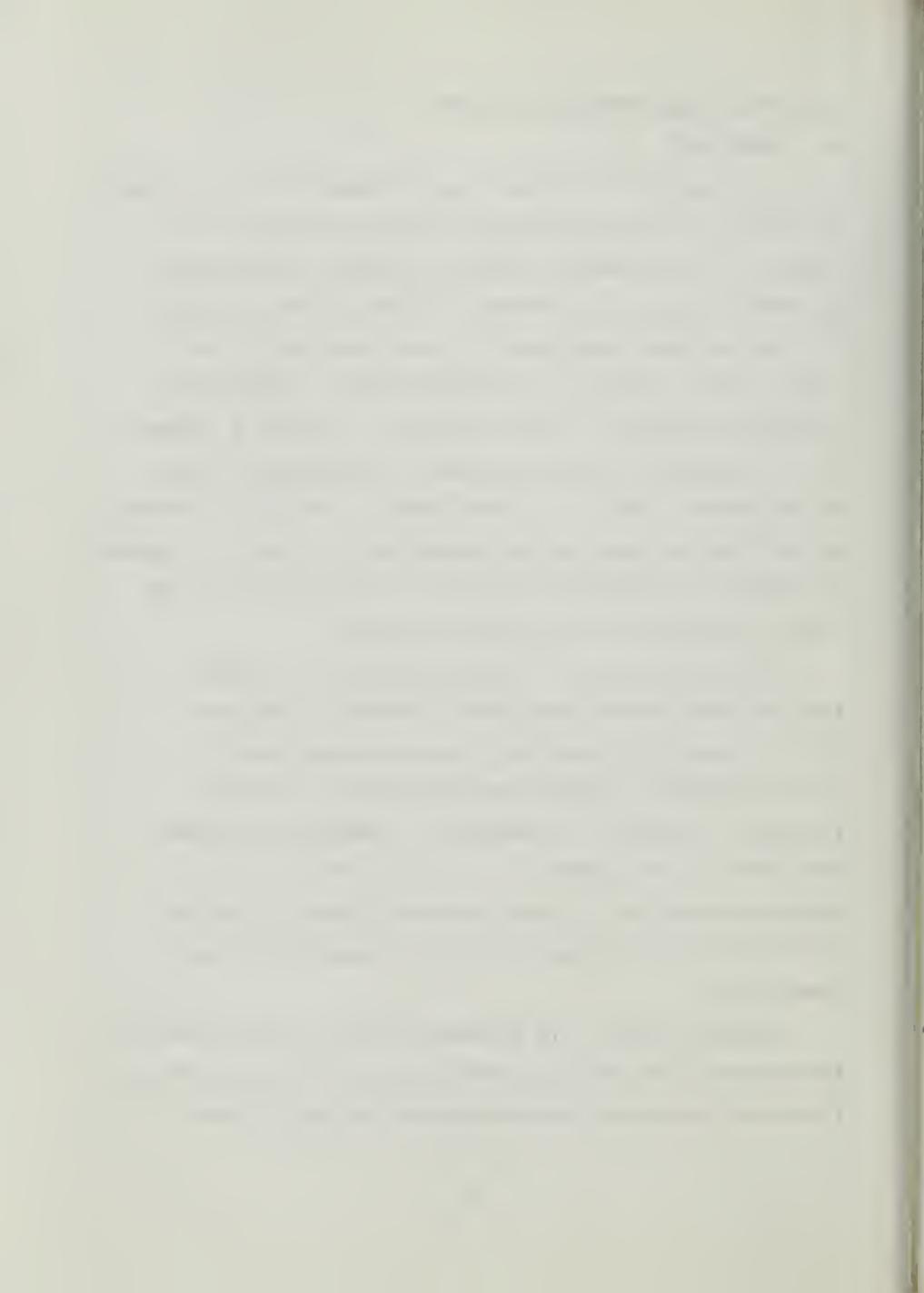
A. EDUCATION

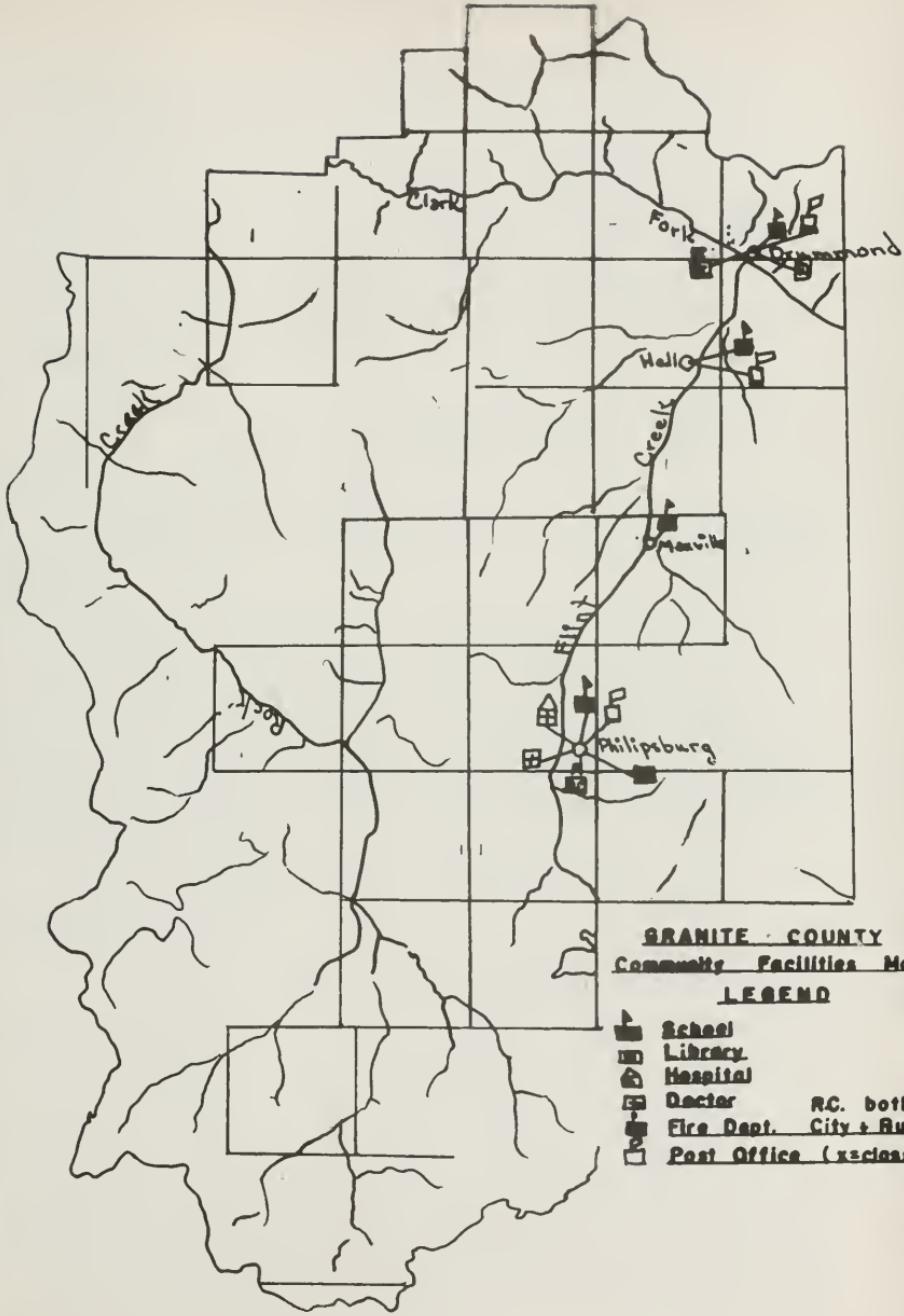
1. Schools: Providing a quality education for our youth is probably more important today than in any time in our history. For the smaller sparsely populated counties such as Granite County, this becomes a burden to the tax payers.

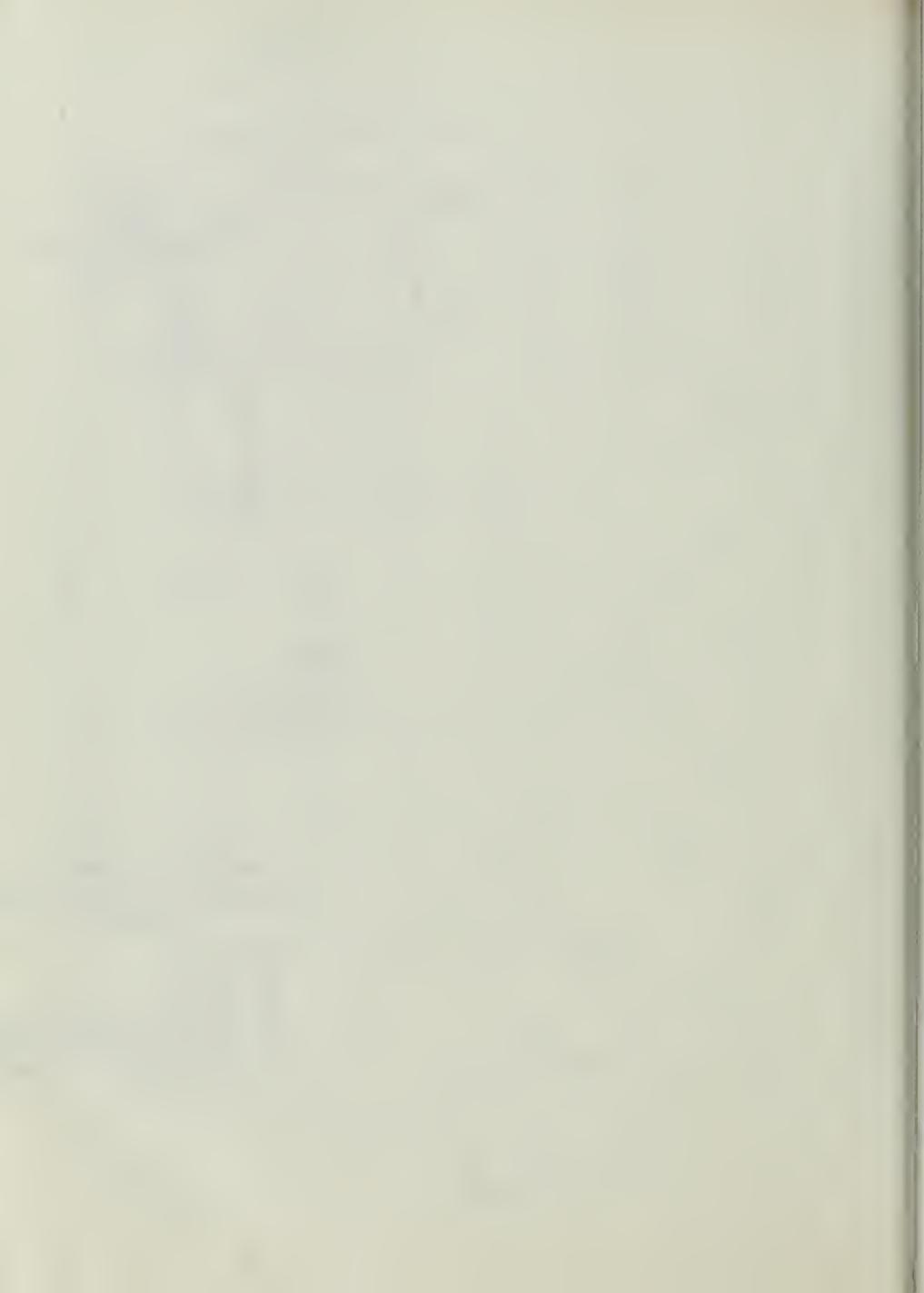
At one time, there were 16 school districts in the county. These have been consolidated until today there are three districts. They are District 1, grades 1 through 12, at Philipsburg, which includes all of the south half of the county. District 8, with grades 1 through 8, located at Hall and includes the area around Hall. District 11, grades 1 through 12 at Drummond includes the north portion of the county, and also the lower Rock Creek area.

Philipsburg schools: Philipsburg has a new modern facility that serves grades seven through 12. This facility is capable of handling an increased enrollment of 10 to 12 students. The present grade school building for grades 1 through 6 is adequate to handle an increased enrollment of 150 students. At present, there are six rooms not being used in this building. There is also the old high school building that could be remodeled if the need arises.

Drummond School: The Drummond school at present has 135 grade school, and 103 high school students. The present facilities at this school can accommodate another 50 grade







school and 25 high school pupils. Many of the students come from rural areas. There are three private owned school busses serving the rural areas of district 11. This includes district 3-11, which is the lower Rock Creek portion of district 11. At present there are fourteen children from the lower Rock Creek area going to the Drummond school.

There is one bus from Powell County transporting 15 high school students from the Helmsville area of Powell County to the Drummond school.

The Drummond grade school building is old and needs to be replaced.

There is a possibility of increased enrollment in the Drummond school system. This could be brought about by Hall consolidating with Drummond. Also to be considered is the transporting Gold Creek pupils to Drummond and the possibility of transporting the Helmville elementary pupils to Drummond.

The Hall school is a two room school with 22 pupils and two teachers.

2. Libraries: There are two libraries in the county. One is in Drummond and one in Philipsburg. Both of these are city libraries, financed through a city tax. They both can receive books from the state library on a loan basis, the only cost being postage. Books from the school libraries at Philipsburg and Drummond can be used if needed although these are not public libraries.

The State Library in Helena and the University libraries in Missoula and Bozeman are accessible.

Libraries seem adequate for the demand.

B. COMMUNICATIONS

(1) Television

The Butte and Missoula television broadcasts are one or both received by most residents of the county. Portions of the county receive direct transmission from Missoula or Butte and other portions are through relays near Drummond and Philipsburg.

(2) Radio

Several radio stations are received in Granite County. Stations from Butte, Anaconda, Missoula, Helena, Hamilton and several out of state stations are received. Consideration is being given at the present time to installing equipment to make FM frequency available.

(3) Newspapers

The Philipsburg Mail, a weekly newspaper, is the county newspaper. The Montana Standard, printed in Butte, and the Missoulian, printed in Missoula, both daily papers, receive considerable circulation through-out the county. The Anaconda Leader is read by many Granite County people.

(4) Postal Service

There are four post offices in Granite County, namely Philipsburg, Drummond, Hall and Maxville. The Rock Creek area, however, is served through Clinton's Post office, in Missoula County. The Georgetown area is served through the Anaconda Post Office in Deer Lodge County. Service is provided for most of the rural areas of the county by star or rural route.

(5) Telephone

Telephone service for all except Lower Rock Creek and a portion of the west end of the county is supplied by Mountain States Telephone of the Bell Telephone System. The area excluded above is served by the Blackfoot Protective Association. Telephone service is available for nearly all ranch homes and residential areas of the county except a portion of Rock Creek and some of the more remote areas such as Garnet.

Most of the rural lines are party lines with six to eight members per line. The newer lines and replacements are being installed underground.

C. MEDICAL FACILITIES

There is one doctor in Granite County, and one hospital, both of which are located in Philipsburg. In addition to this, there is one County nurse. She serves the entire county by traveling to various parts of the county. She maintains an office in Drummond.

Other medical facilities are two county ambulances, one each at Philipsburg, and Drummond. The drivers and attendants are volunteers from the local areas. The ambulance service is financed partially through a county tax levy.

The Granite County Memorial hospital is a county hospital. In 1973, an automatic sprinkling system and smoke detection system had to be installed to comply with the State Fire and Life Safety Code. The hospital is currently operating at a loss, which must be met by county tax revenue. Factors contributing to this are:

1. Limited facilities available at small hospitals, which makes it necessary to send many patients to larger hospitals for special treatment; 2. Only one doctor available which limits the cases he can handle; and 3. larger and better equipped hospitals within thirty minutes drive from portions of the county.

At present there are plans being studied to add a 25 bed nursing home to the hospital. The addition will be financed in part through a federal grant. There is a definite need for such a facility in this area, since a large percent of the county residents are in the older age group. Such a facility could lessen the present tax burden of maintaining the present hospital.

D. SOLID WASTE

Solid waste is still a current problem in Granite County. This could increase in scope as more rural areas are developed. This is not only a problem for the rural areas, but for Philipsburg also, which has a population of over 1000, and has no approved solid waste disposal program.

In 1973, the local governing bodies of Philipsburg and Drummond elected to participate with the county in a county wide solid waste program. No definite disposal plan was ever adopted. Petitions were circulated and signed by enough people opposing the consolidation, to cancel the program.

At present, Philipsburg, and adjacent areas are using the Philipsburg dump, which is not a land fill dump, and according to state law should not be burned, but occasionally is. There is a court case pending on future requirements

regarding this dump.

Drummond is maintaining a city dump that is a modified land fill where dirt is pushed over waste at various intervals.

There are two other county maintained dumps, one at Maxville and one north west of Hall. The County covers the waste material at various intervals.

The solid waste on private land in the Georgetown lake area and the lower Rock Creek areas is being taken care of by the individual at no cost to the county. Private solid waste pickup services are serving these areas, on a fee basis.

In addition to the above mentioned dumps, several ranchers are maintaining individual dumps on their own land.

It is evident further action is needed on the solid waste disposal in the county in order to comply with State law. There are several alternatives that can be considered.

It seems to be the opinion of most of the people in the county that with the poor economy and low population, a sophisticated method of solid waste disposal that includes all residents of the county is not feasable or practicle.

E. POLICE AND FIRE PROTECTION

County officers in Granite County consists of one sheriff, three deputies, and two justices of the Peace. The sheriff and two deputies, one man and one woman, and one Justice of the Peace, are stationed at Philipsburg. One deputy and one Justice of the Peace are stationed at Drummond. The county jail is located at Philipsburg.

Philipsburg has one city policeman and one Juvenile officer. There is one City Police Judge. The City Police Judge is also the County J.P.

Drummond has a town Marshall and a City Policeman. There are also two Highway Patrol officers stationed at Drummond.

There are no additional paid county officers in any other part of the County. In lower Rock Creek, there are some county deputies on a voluntary basis. There is some additional law enforcement at Georgetown Lake, which includes portions of Deer Lodge and Granite County. This is through the cooperation of the two counties and the Forest Service. Deerlodge county provides the manpower and equipment, Granite County deputized the Deerlodge County deputies, and the U.S. Forest Service pays for the deputies and the mileage.

There are two Volunteer Fire Departments in Granite County. One is in Philipsburg, the other in Drummond. Both departments are City fire departments manned by volunteer firemen. The purchase and maintenance of equipment for the cities fire department is financed through a mill levy on town properties.

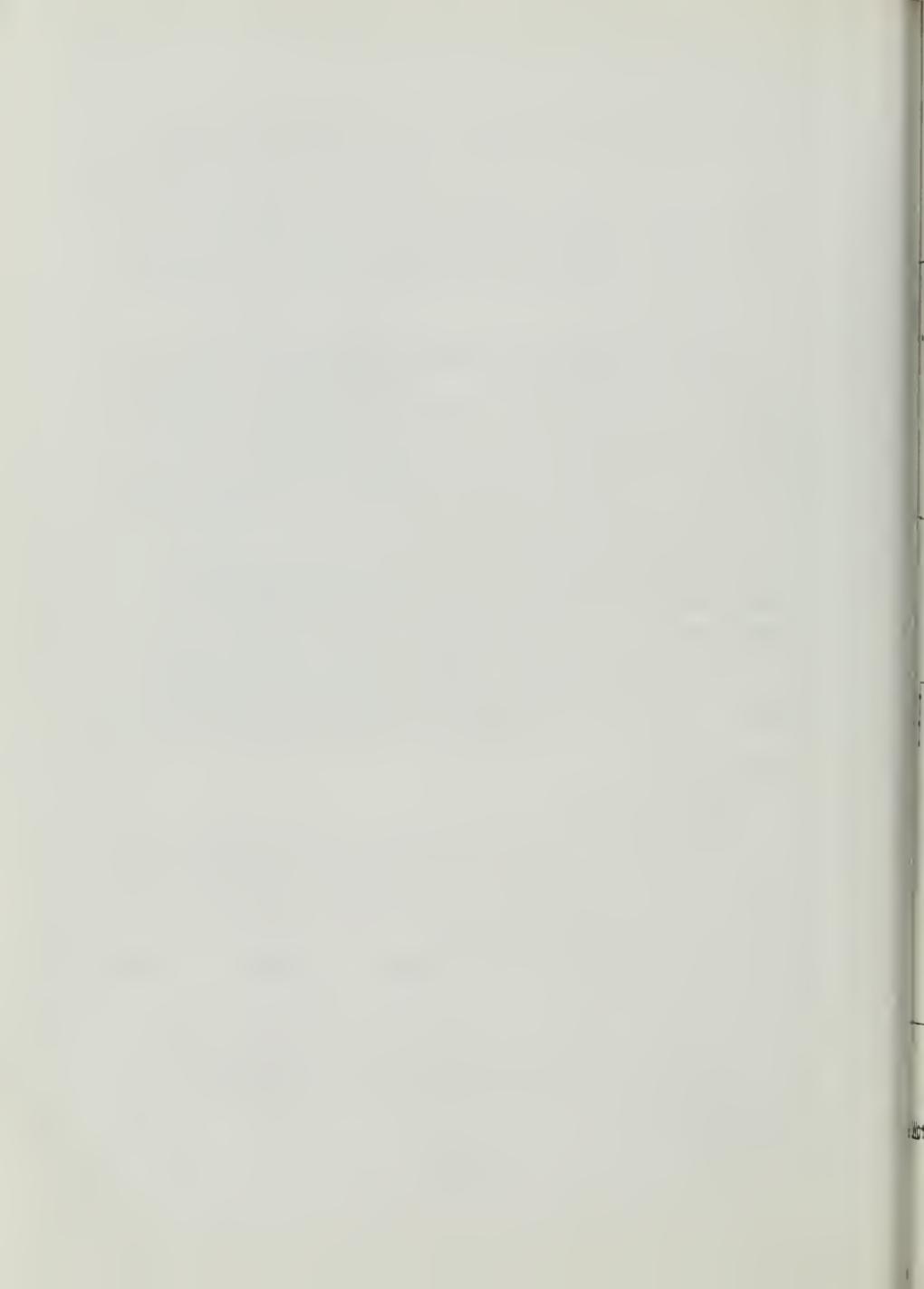
Both Philipsburg and Drummond maintain two fire trucks. One truck in each area is available for rural fires within twelve to fifteen miles of the towns. The rural fire protection is financed through voluntary contribution from rural area residents being served.

The Georgetown lake area, which included a portion of Deer Lodge and Granite County, and the lower Rock Creek area in Granite County both need some form of organized fire protection to cope with structural fires. It may be desirable to organize fire control districts in these areas.

F. WATER AND SEWER

Philipsburg is the only community in the county that supports both a city water and sewer system. There is also a storm sewer system that serves a portion of Philipsburg. The areas served by all three systems are shown on attached maps #1,2, and 3.

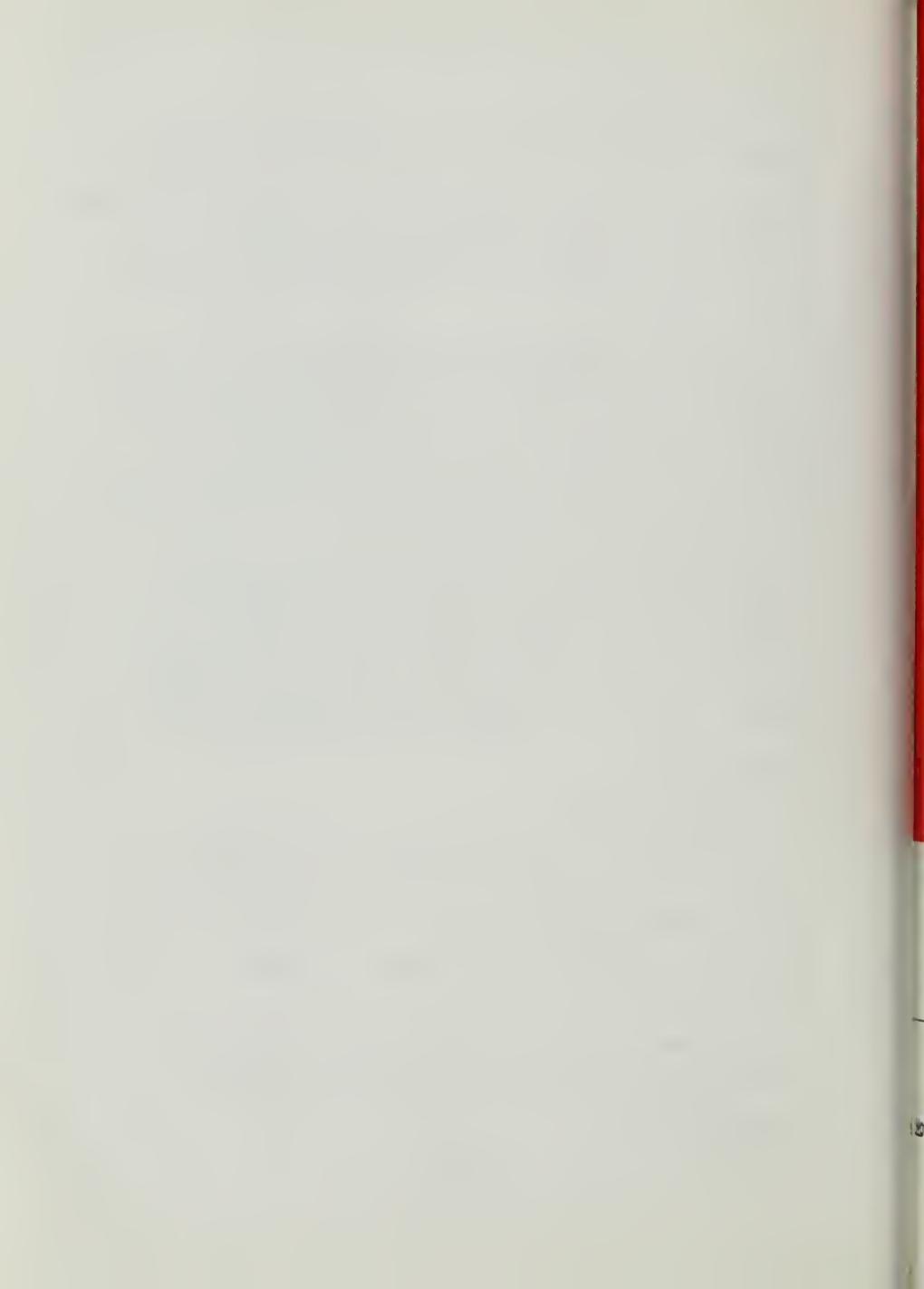
Drummond is served by a sewer system as shown on attached map #4. The water for the town of Drummond is individual wells.



City of Philipsburg



Water lines



GRANITE COUNTY

TRANSPORTATION SYSTEM 1970-1990 Classification

LEGEND

Airports

Railroads

Interstate

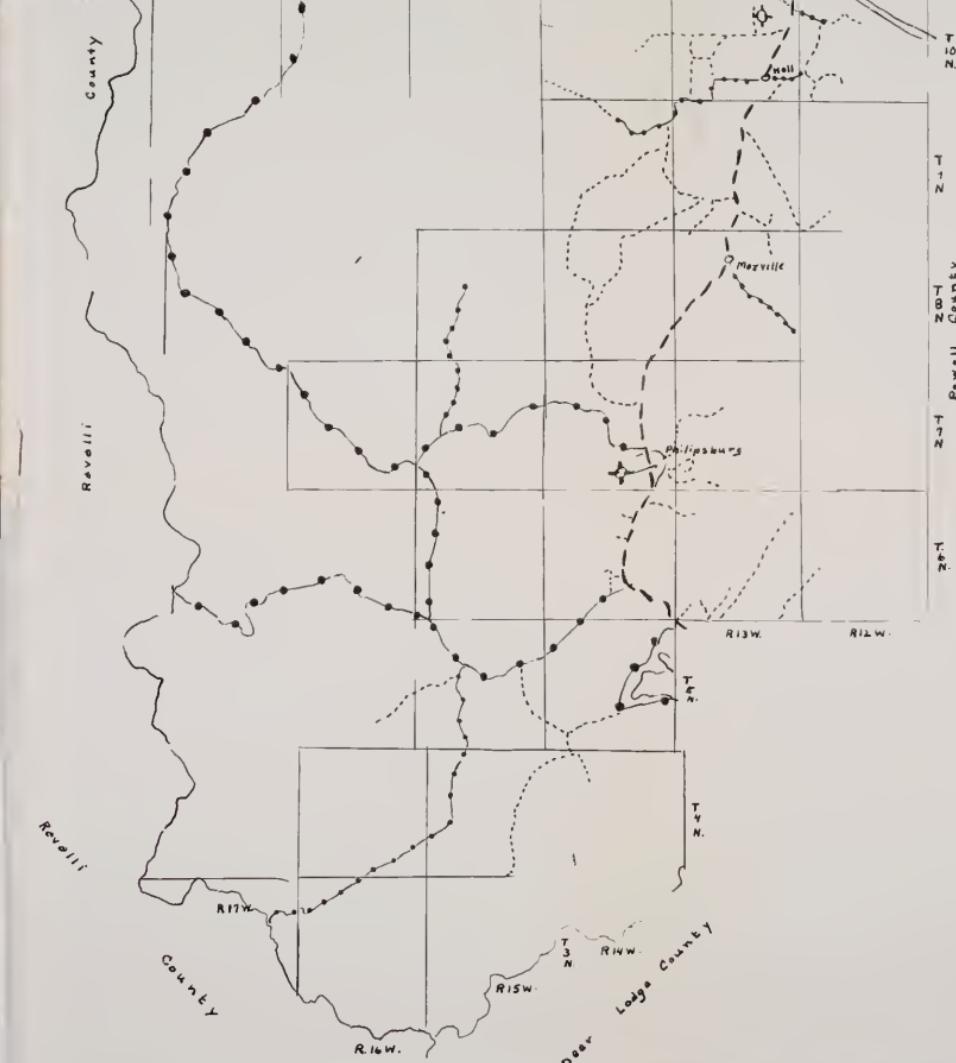
Principle Arterial

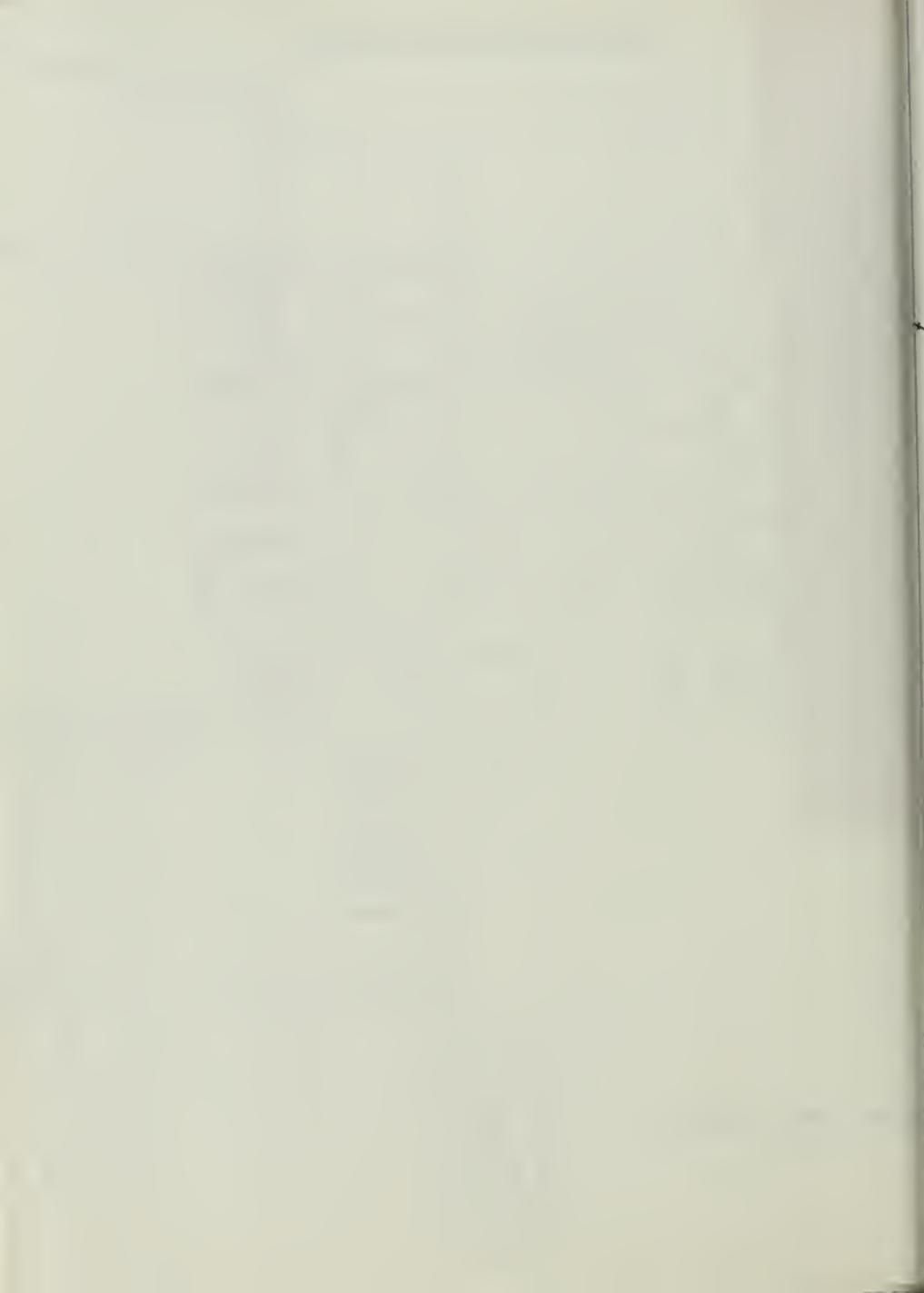
Minor Arterial

Major Collector

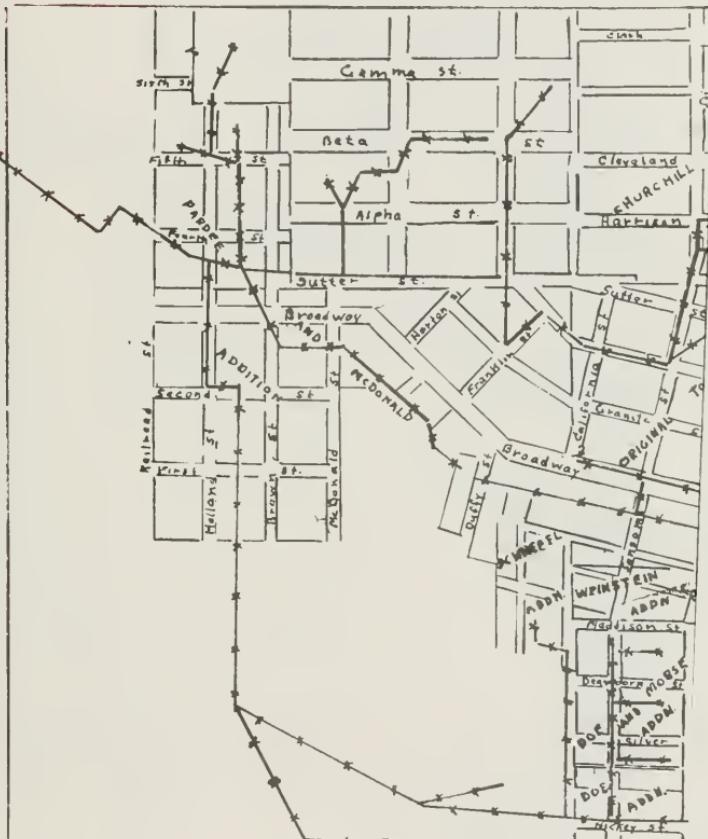
Minor Collector

County Roads

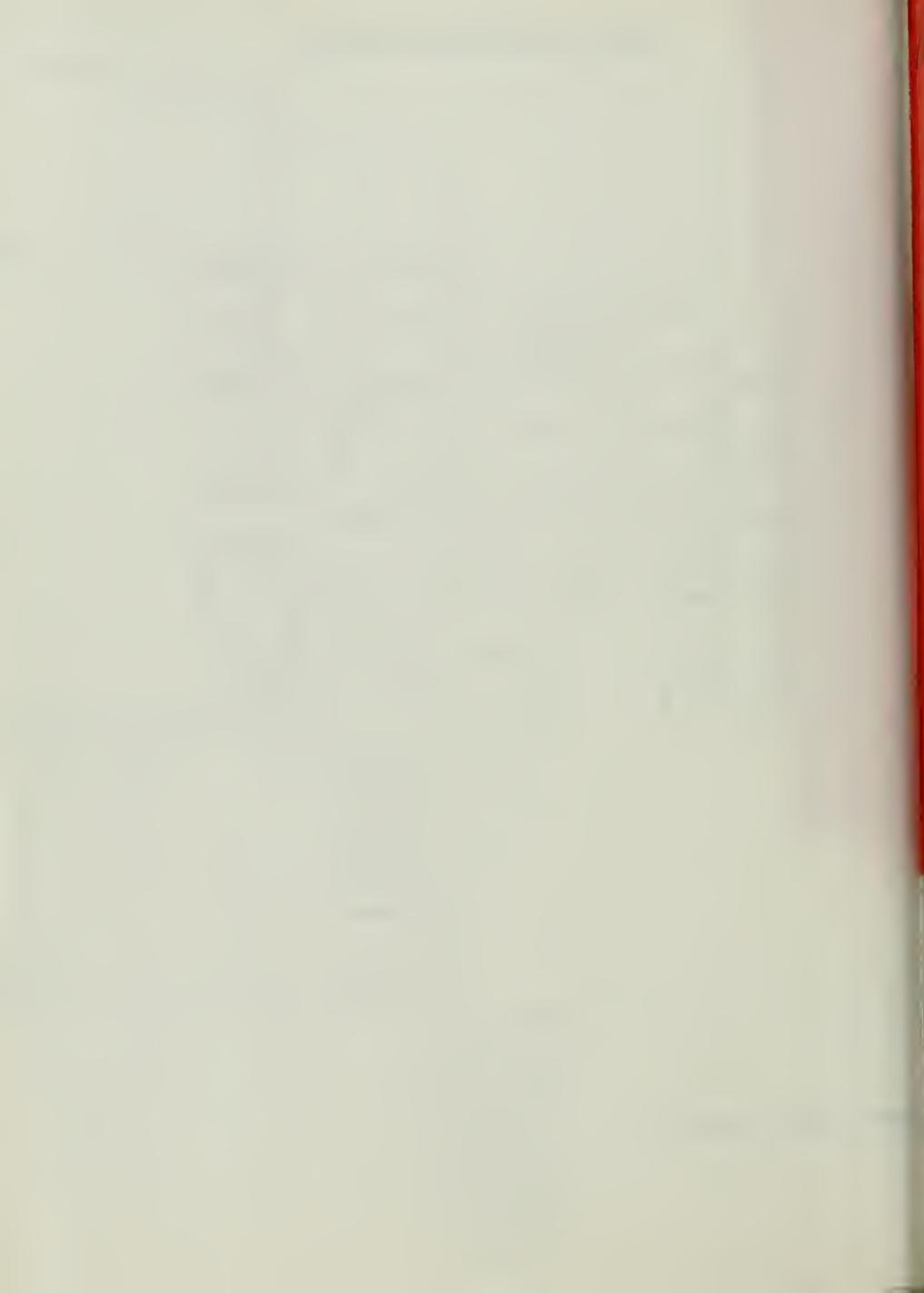




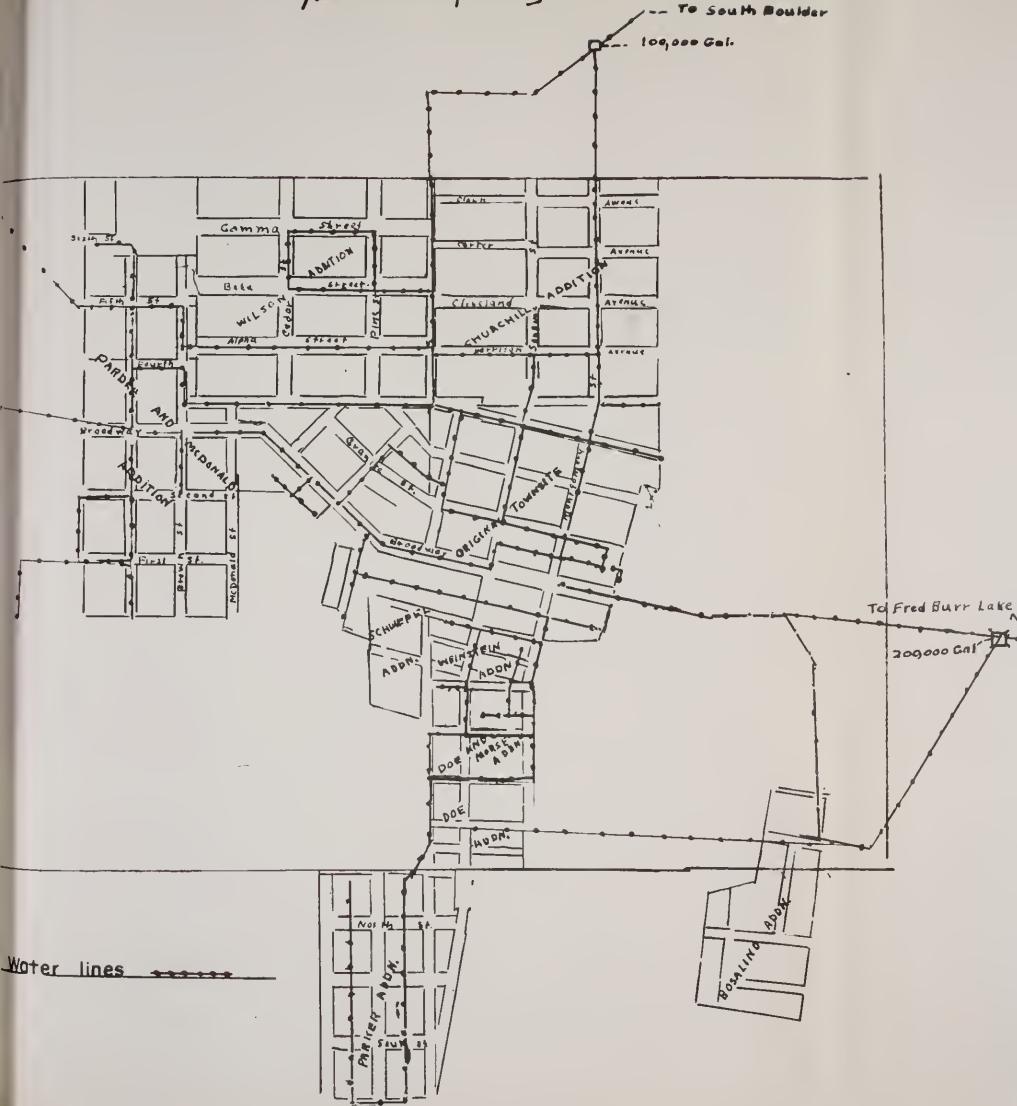
City of Philipsburg



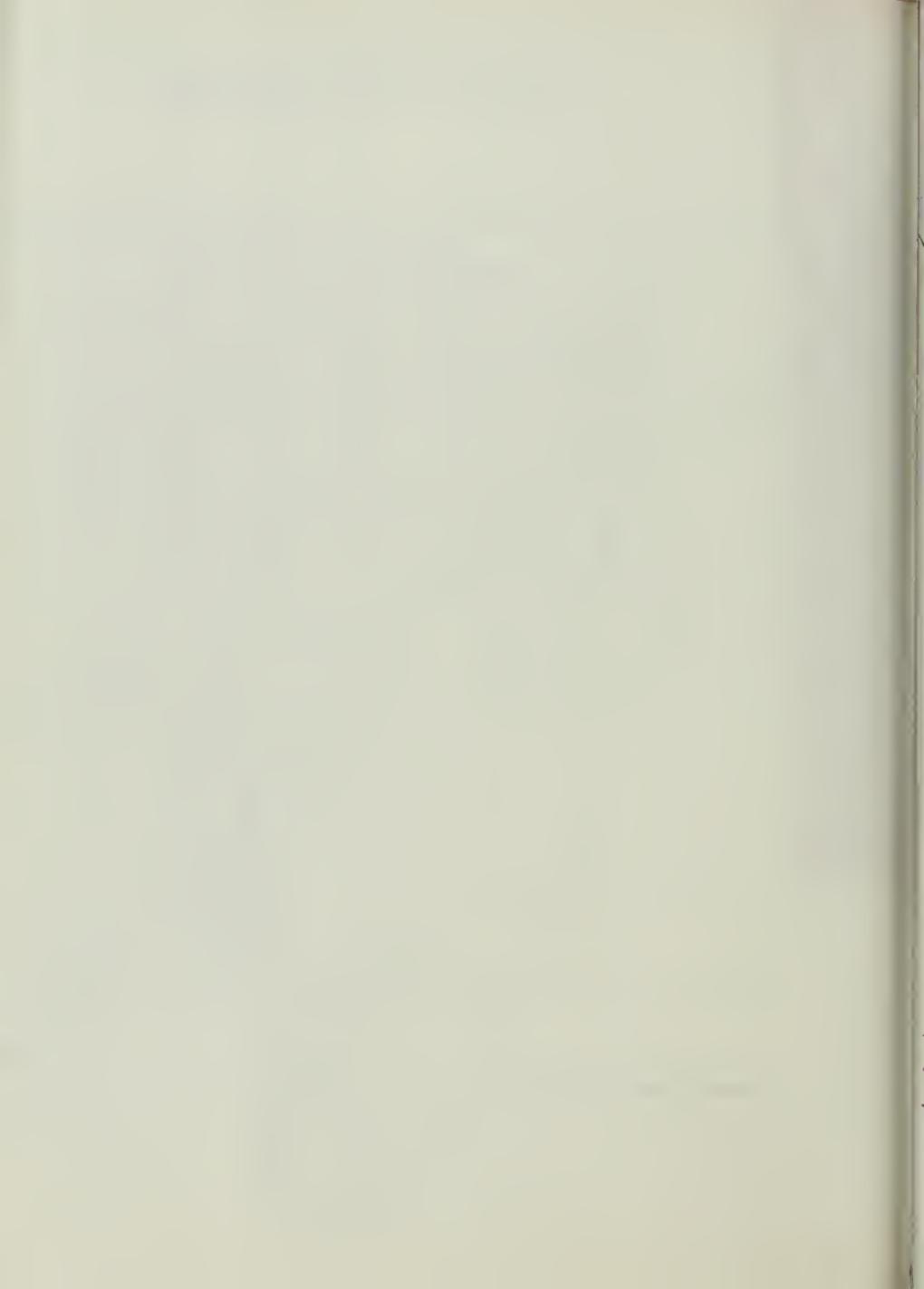
Sewer lines



City of Philipsburg



Water lines



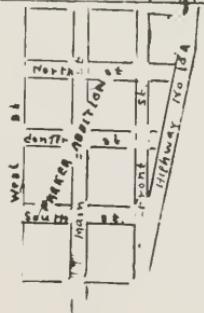
City of Philipsburg

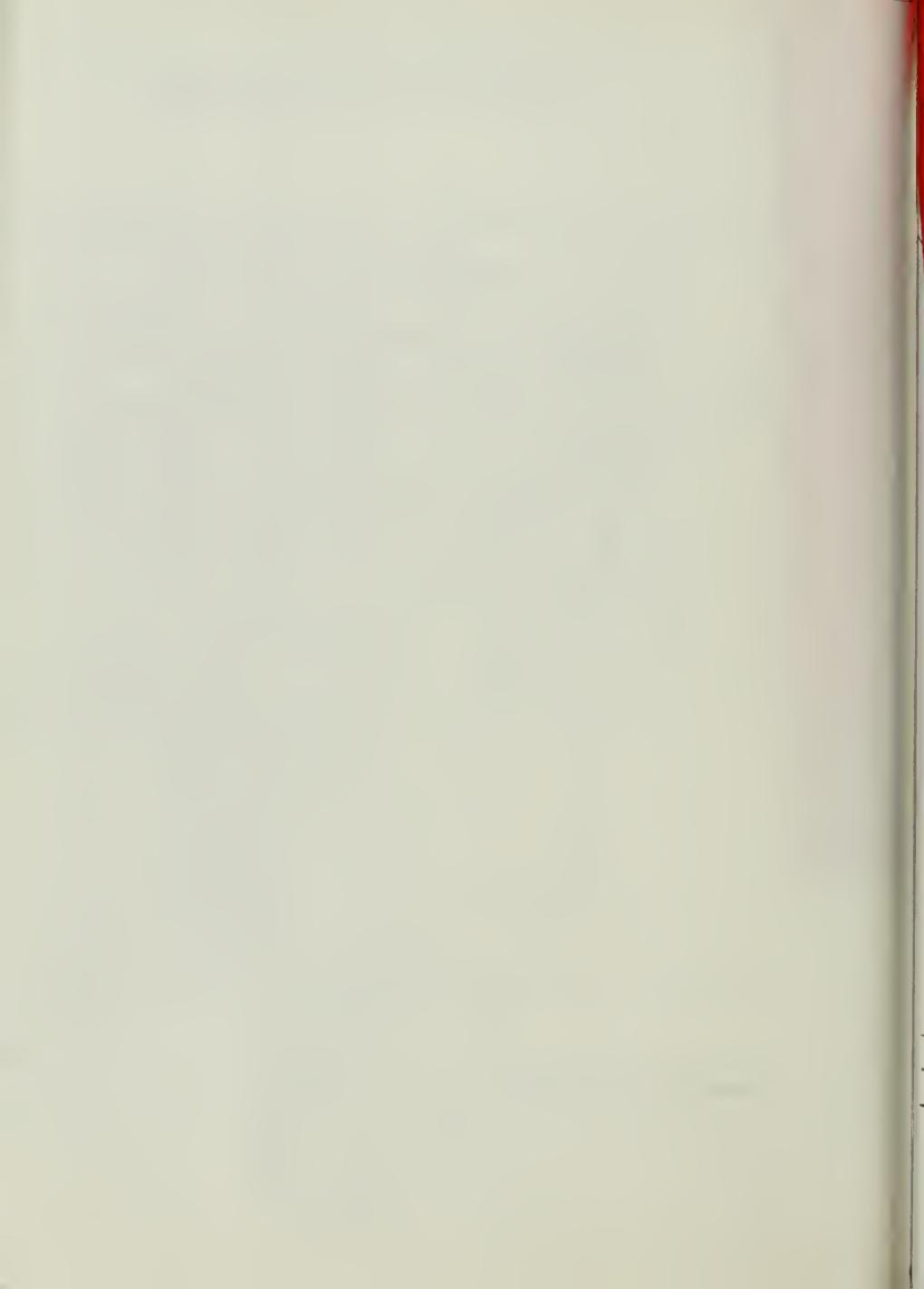


Storm Sewer lines

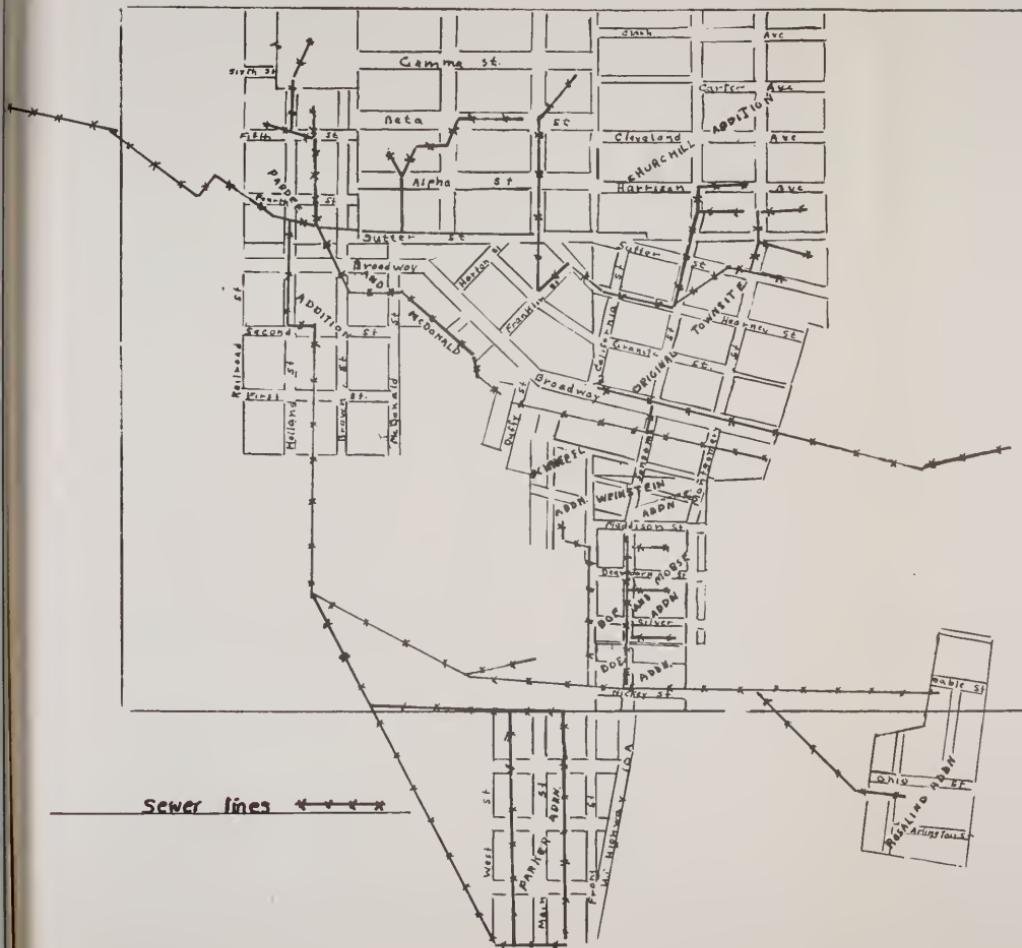
Man holes 0

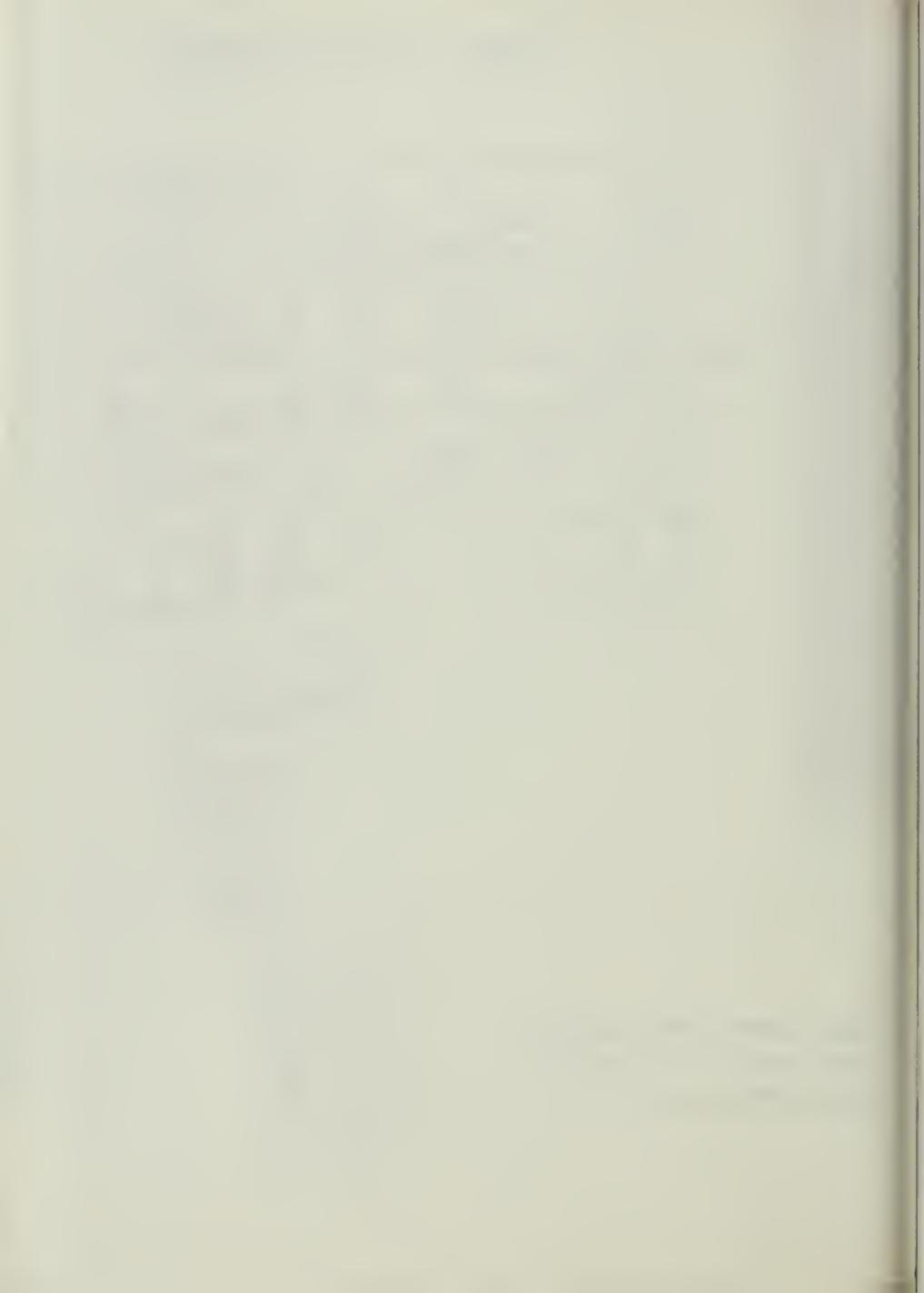
Catch Basin

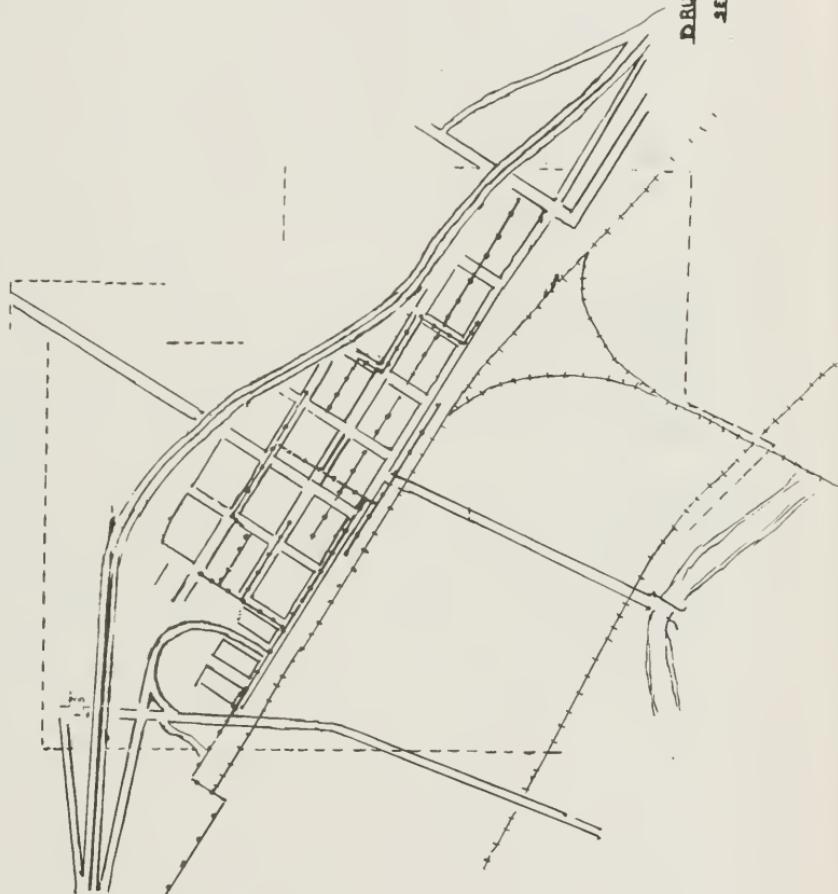




City of Philipsburg







Blackwater
Stabilization
Road of River

City of Philipsburg



The water supply for Philipsburg is fairly adequate for the present population and industry. It is necessary at times during dry seasons to ration use of water, but this has never become a serious problem. A problem does develop when the pressure is low in providing water to some of the higher elevation areas of the town. The problem of water shortage during dry weather is not due to inadequate supply at the source, but to inadequate size of supply pipes.

Work is currently being done to remedy this situation.

The sewage disposal system for Philipsburg is a lagoon, located about one mile from the city. The storm sewer was installed in 1973 and is a separate system from the regular sewer.

Drummond has no municipal water system. The residences and commercial buildings have individual wells. A well with a water storage tower on Burlington Northern property furnishes water for fire suppression. Some exploratory work has been done in the Drummond area to find an adequate supply of water to install a municipal water system. Most of the wells now being used are deep wells.

All of the town of Drummond between Interstate 90 and the Burlington Northern Railroad is served with a municipal sewer system. The disposal area which is a lagoon is located west of the town. The residents of Drummond between the two railroads and the area north of Interstate 90 have individual septic tank-drain field sewage disposal systems. The area between the tracks has a high water

table which does not lend itself to this type of sewage disposal. Additional building in this area should be discouraged until a municipal sewage system is installed for this area.

Plans are currently being studied to include the area north of the Interstate on the present sewer system.

All other areas in the county including the summer homes residential areas of Georgetown lake and subdivision settlements on lower Rock Creek have individual wells and septic tanks. This can cause problems in the densely settled areas. Some of the small settlements in the county, such as Hall have a very high water table, especially during irrigation time. This can readily cause contamination of ground water. To prevent problems of this type from developing a standard should be adopted county wide that would allow only one residence per 3 acres, where individual wells and septic tanks are used, then only on approval of the State Department of Sanitary and Environmental Sciences.

G. UTILITIES

Natural gas is supplied by Montana Power Co. to the city of Drummond, and also to Philipsburg. Some of the ranches and residences between Drummond and Philipsburg are also supplied with natural gas by Montana Power. Electric Power, where available, is supplied by Montana Power Co. to all of the county with the exception of the lower Rock Creek area. Power in this area is supplied by the Missoula Electric Cooperative.

Electric power is available to nearly all the residential areas and rural residences in the county. There is no seasonal restriction on use of electric power in the county.

The American Telephone and Telegraph Co. own and maintain a micro-wave relay station in Section 17, T10N, R14W, in Granite County.

A. GENERAL

Outdoor recreation is increasing at a rapid rate in Granite county, as it is in many areas of Western Montana. Factors contributing to this increase are: 1. People have more leisure time to spend. 2. Increase in mobility makes it possible for more people to get out of the towns and cities. 3. Modern mechanized forms of outdoor recreations such as off road vehicles, snowmobiles etc, makes it possible for nearly all age groups to participate. A large percent of outdoor recreation, such as hiking, sight seeing, hunting, fishing and many others require little or no facilities. Other forms of recreation, such as camping, boating, skiing, and others do require facilities. In areas of heavy recreation, such as around Georgetown lake, many facilities are required to accommodate the people.

Granite County has many factors that make it attractive for outdoor recreation. Low population density with adequate amounts of open space are positive factors present in much of Granite County. Other important factors that attract recreation and tourism are; 1. large areas of public land that are accessible by motor vehicle, and other areas of public land classified as wilderness. 2. Diversified recreation, which includes summer and winter fishing, big game, small game, water fowl and

upland game bird hunting. Hiking, mountain climbing, pack trips, back pack trips, rock hounding, horse back riding, sight seeing, swimming, boating, water skiing, snowshoeing, snowmobiling are others.

Recreational planning must consider two types of facilities for outdoor recreation.

One type is neighborhood or community facilities, such as parks, playgrounds, ball fields or others that serve the primary needs of the area residents. The other type, such as campsites, picnic areas, boat launching facilities etc., serve both the local residents and the general public that are attracted to the area.

Recreation planning must also recognize various age groups, and their special needs as well as the particular facility requirements of different recreational activities. Outdoor recreation in an urban area usually takes place in a park setting. Different types of parks generally found are playgrounds, neighborhood parks, play fields, and community parks. Table R-1, taken from Planning Design Criteria gives recommendations for sites, size, and acreage of these park types.

TABLE R-1
PARK REQUIREMENTS

Type of Park	Area (acres) per 1000 people	Site size (acres) Ideal Minimum	Radius of Area usually Served (miles)
Playgrounds	1.5	4	2
Neighborhood Parks	2.0	10	5
Playfields	1.5	15	10
Community Parks	3.5	100	40

Playgrounds usually contain play equipment and game fields for young children within walking distance of residences.

While separate playgrounds exist, provided by civic groups and neighborhood associations, playgrounds are usually found in schoolyards and as part of neighborhood or community parks.

Neighborhood parks contain open space, picnic facilities and playgrounds. Also desirable are multi-purpose game areas with equipment for volleyball, horseshoes, tetherball, tennis, basketball, and possibly handball.

Playfields for football, baseball, track meets and other spectator sports are found on individual sites, junior and senior high schoolyards and a part of neighborhood and community parks.

Community parks serve whole communities and usually contain facilities in all other park types mentioned above. In addition, swimming pools, outdoor concert halls, museums, zoos, etc. may be located in community parks.

Miscellaneous community recreation facilities include bridle-paths and stables, golf courses, fishing ponds, ponds for canoeing or rowing, ice-skating rinks, marinas, and overnight trailer parks.

Other concepts that must be considered in conjunction with recreation planning are greenbelts and open spaces. Greenbelts are usually buffer zones of trees and shrubs used to screen industrial uses from residential and commercial areas. Open areas are undeveloped areas within or around a community,

left untouched to provide relief from the urban landscape or recreational amenities. Water Conservation and flood plains are types of open space.

The other type of outdoor facilities considered are the facilities such as public camp and picnic grounds, boat launching facilities, parking areas etc. In Granite County, these facilities are nearly all installed and maintained by agencies such as the U.S. Forest Service, Bureau of Land Management, and Montana Fish and Game Department. All of the facilities open to the public are either on federal or state land or land under their control. The present demands for these facilities in some areas are in excess of the supply, but in these areas, further development may be questionable from the environmental standpoint. The county is involved to a certain degree in this program through maintenance of roads serving the areas.

The distribution of the existing facilities has been controlled mostly by demand. Most of the demand is for facilities in close proximity to water. The map and list of improvements on the following page shows locations of public facilities, as well as private recreational facilities.

If money becomes available to the county, it could be used on community parks such as south of Philipsburg, and Drummond, or possibly for additional fisherman parking areas along the lower Rock Creek road.

Jewelry etc.

x

Powell Co.

GRANITE COUNTY RECREATIONAL FACILITIES

		Camp units	Trailor units	Picnic areas	Boat launch	Meals	Groceries	Gas and Oil	Fishing supplies	Refreshments	Boat rental	Lodging	Horses	Ski run	Guide service	Jewelry etc.
1.	Elkhorn Guest Ranch	x	x	x			x	x	x	x	x	x				
2.	Sportsmans Bar	x	x	x		x	x		x	x						
3.	Norton Campground	x	x	x												
4.	Grizzly Campground	x	x	x												
5.	Dallies Campground	x	x	x												
6.	Harry's Flat Campground	x	x	x												
7.	Bitterroot Flat Campground	x	x	x												
8.	Sira Campground	x	x	x												
9.	Braach's ranch	x	x	x		x		x	x		x					
10.	Illiots Hunting Hdqts													x		
11.	Squaw Rock Campground	x	x	x												
12.	Neals Hunting Hdqts					x					x				x	
13.	Page's Hunting Hdqts					x					x				x	
14.	Hess's Hunting Hdqts					x					x				x	
15.	Chaussee Sapphire Diggings	x				x									x	
16.	Crystal Cr. Campground	x	x	x												
17.	Copper Cr. Campground	x	x	x												
18.	Moose Lake lodge					x					x	x	x		x	
19.	Spillway Campground	x	x	x												
20.	East Fork Campground	x	x	x												
21.	Denton's Point	x	x		x	x	x	x	x	x	x	x	x			
22.	Purcell-Renz Marina				x	x				x						
23.	Ecclestons	x	x		x				x				x			
24.	Piney Point Campground	x	x	x	x											
25.	Campfire Girls Camp					x						x				
26.	Philipsburg Bay Campground	x	x	x	x											
27.	Flint Cr. Campground	x	x	x												
28.	Echo Lake picnic area				x											
29.	Cable campground	x	x	x												
30.	Echo Lake lodge							x	x	x	x	x				
31.	Discovery Basin Ski run					x		x						x		
32.	Miller Hunting Hdqts.	x				x		x			x		x		x	
33.	Philipsburg City park															
34.	Cassidy Hunting Hdqts														x	
35.	Graybeal Hunting Hdqts											x		x		
36.	Drummond city park															
37.	Beammouth Chalet	x	x	x		x	x	x	x	x	x	x				

GRANITE COUNTY RECREATION MAP

LEGEND

Large tracts, 15 acres +

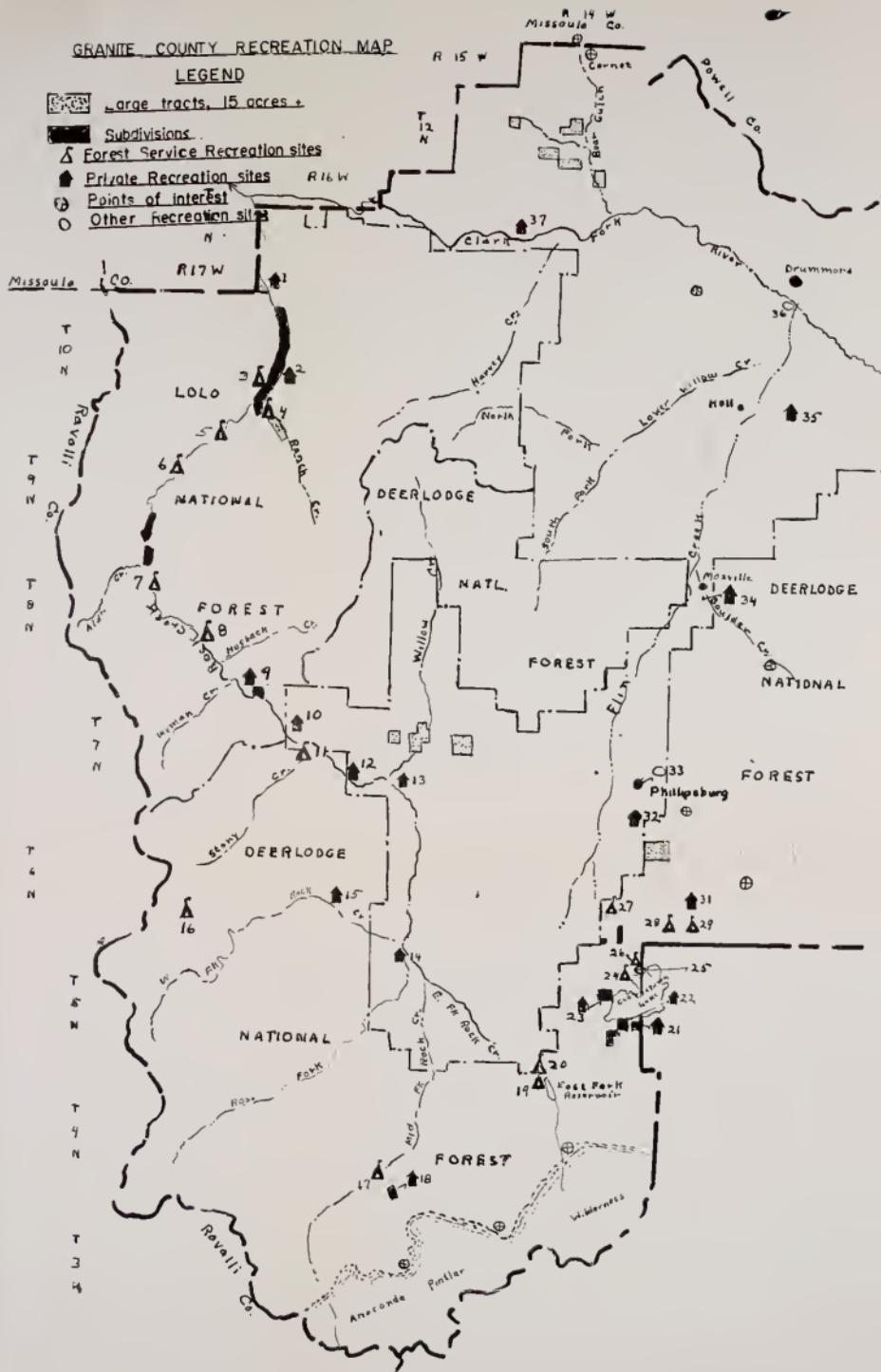
Subdivisions

Forest Service Recreation sites

Private Recreation sites

Points of interest

Other Recreation sites



GRANITE COUNTY RECREATIONAL FACILITIES

	Camp units	Trailer units	Picnic areas	Boat launch	Meals	Groceries	Gas and Oil	Fishing supplies	Refreshments	Boat rental	Lodging	Horses	Ski run	Guide service	Jewelry etc.
1. Elkhorn Guest Ranch	x	x	x								x	x			
2. Sportsmans Bar	x	x			x	x		x	x						
3. Norton Campground	x	x	x												
4. Grizzly Campground	x	x	x												
5. Dallies Campground	x	x	x												
6. Harry's Flat Campground	x	x	x												
7. Bitterroot Flat Campground	x	x	x												
8. Sira Campground	x	x	x												
9. Braach's ranch	x	x	x		x		x			x					
10. Eliots Hunting Hdqts													x		
11. Squaw Rock Campground	x	x	x			x									
12. Meals Hunting Hdqts						x					x		x		
13. Page's Hunting Hdqts						x					x		x		
14. Hess's Hunting Hdqts						x					x		x		
15. Chaussee Sapphire Diggings	x					x							x		
16. Crystal Cr. Campground	x	x	x										x		
17. Copper Cr. Campground	x	x	x										x		
18. Moose Lake Lodge						x					x	x	x		x
19. Spillway Campground	x	x	x												
20. East Fork Campground	x	x	x												
21. Denton's Point	x	x		x	x	x	x	x	x	x					
22. Purcell-Renz Marina	x			x					x						
23. Ecclestons	x	x		x					x			x			
24. Piney Point Campground	x	x	x	x					x			x			
25. Campfire Girls Camp					x							x			
26. Philipsburg Bay Campground	x	x	x	x											
27. Flint Cr. Campground	x	x	x												
28. Echo Lake picnic area				x											
29. Cable campground	x	x	x												
30. Echo Lake Lodge									x	x		x			
31. Discovery Basin Ski run					x		x					x		x	
32. Miller Hunting Hdqts.	x				x							x		x	
33. Philipsburg City park															
34. Cassidy Hunting Hdqts													x		
35. Graybeal Hunting Hdqts												x		x	
36. Drummond city park															
37. Beammouth Chalet	x	x	x		x	x	x		x		x				

While some areas in the County are favorite outdoor recreational areas and are used extensively, nearly all portions of the county has some form of recreation opportunity and is used, to a degree. Hunting big game, small game, birds or water fowl is done to some degree county wide, except in areas closed to hunting and small areas around the towns and more heavily populated areas. The county also has many miles of fishing streams and numerous lakes that support fish. Some of the streams such as the Clark Fork River are open to fishing for all species year long. Other streams are closed to trout fishing during the winter and early spring, but stay open to white fishing during the early winter. Most of the natural lakes are open to fishing of all species year long. Other lakes, such as Georgetown, are open to winter fishing, but closed during the spring months. It is very likely that more people days are spent fishing than any other recreational activity in the county. Other recreational activities that are more or less county wide are: sight-seeing, rock hounding, hiking, exploration of old mining camps, snowmobiling etc. Forms of recreation such as boating, skiing water skiing, are available in only a few areas in the county.

B. KEY RECREATION AREAS

The two favorite recreation areas in the county that receive heavy recreational use are the Georgetown Lake Basin and lower Rock Creek areas. These areas will be considered only briefly in this plan. Separate plans are being written for these areas, where more detailed information is available.

The Georgetown lake basin area attracts many people from the local communities of Butte, Anaconda, and Philipsburg as well as many out of state travelers. The area has much to offer in the line of recreation. There is an oiled highway through the area that furnishes easy year long access. Georgetown lake is an important fishery, that is open for summer and winter fishing. Skiing facilities have been developed in the area, which will continue to add to the winter recreation. There are numerous areas available for snow-mobile travel. Much of the area is public land. The U.S. Forest Service maintains several facilities such as public camp and picnic ground, boat docks, parking areas etc. Private land in the area is being developed at a fairly rapid rate. A considerable portion of this has been subdivided and is being developed for summer homes. The area is being developed to the point that if future development is not controlled, damage to the environment will result.

The lower Rock Creek area is the area in Granite County from the Missoula-Granite County line to Cougar Creek. This is approximately twenty miles of relatively narrow valley terrain, with steep mountainous country on both sides of the valley bottom.

All of this area is within the boundary of the Lolo National Forest, and is all public land except the more level valley bottoms, which was home-steaded under the Homestead Act of June 1906.

The use of the private land, which totals only 2303 acres in Granite County, was chiefly agricultural up until 1967. Since that time, about 1/3 of this acreage has been subdivided and is being sold for residential building sites.

Factors that help make lower Rock Creek a desirable recreational area are: Rock Creek is a blue ribbon trout stream. The area has a mountainous aspect, with high mountain peaks and beautiful scenery. The small private tracts are surrounded by public land. The lower portion of this area is fairly accessable to all season travel.

The Forest Service maintains several campground and picnic areas for public use.

Problems that may develop in the area are:

1. If location and density of housing development is not controlled, damage to the environment will result.
2. If the area above Ranch Creek becomes developed to the point where year long access is required, this will present a problem.

The future planning and implementation of plans for this area needs the cooperative efforts of the local governing bodies, and the agencies such as the Forest Service, Fish and Game department and others.

C. PHILIPSBURG

Philipsburg maintains one small city park located adjacent to Highway 10A in the southern portion of the town. This park is well maintained, with two picnic tables and water available. There is no playground equipment. A larger area is being developed south of Philipsburg for a city park. This is on leased state land outside of the city limits. This park is being developed through the cooperative efforts of various civic groups and agencies. When completed it will contain modern facilities for water and sewage, and have various recreational facilities. A small ice skating area is maintained by the city.

The school ground play equipment serves the needs of the children in the south portions of the city. It is centrally located so it is available to most of the area. There is a need for a track in the area of the highschool. At present, the track being used is not of standard size nor is there any surfacing, such as cinders. The school and the county own adequate land in the area of the football field, that a track could be built.

There is no public playground equipment available for the children in the northern portion of the city. The larger children can use the school ground equipment, but the distance is to far for the smaller children. According to the state Planning Design criteria shown in Table R-1 page 91, 0.5 miles is a maximum distance children should be required to travel. There is also a hazard involved in children crossing Broadway street in Philipsburg.

D. DRUMMOND

Drummond maintains a city park adjacent to the rodeo grounds, ~~north~~^{South} of the Clarks Fork River. This park in considerable distance from the town proper, and is not available as a playground for the children of the town. The park is an ideal place for picnics or group gatherings etc. It is equipt with running water and sewage facilities. There are units available for overnight camping on a fee basis.

The only playground equipment available for the children in the Drummond proper is the equipment at the school. This is available all summer long as well as during the school year. In addition to this, the city floods an area and maintains an ice skating pond during the winter. There also are a few natural play areas such as the school hill, used during the winter for sleigh riding.

At present, there does not seem to be any pressing demand for additional park facilities in Drummond.

E. HISTORICAL SITES & POINTS OF INTEREST

There are numerous historical sites and other points of interest in Granite County. Most of the historical sites are connected with early day mining and milling activities. There are many old settlements, some of which had populations of several hundred that there is no trace of any more. One such one was the settlement of Quigley, which had a population of 3,000 in 1895. Over \$1,500,000.00 was invested in the town, which did not last over one year, as the gold strike did not pan out.

The map and reference sheet on pages 104 and 105 lists 22 historical sites or other points of interest. Some of the other old camps, mines or mills of which there is very little trace of are Black Pine, Combination, Rumsey, Springtown, Top O' Deep, Emmetsville, and many others.

The old town of Garnet in the north end of the county is one of the more interesting ghost towns in the county. The Bureau of Land Management and other interested parties are restoring some of the buildings to their original state. Garnet at one time had a population over 1,000 people. The area between Bearmouth and Coloma boasted a population of close to 5,000 in the 1890's. This area at present is becoming a popular tourist attraction. Visitor records show 700 to 800 visits per week during the summer. The area is also becoming a popular snowmobile area, with a weekly average of 125 people. Another very interesting old ghost town is the old town of Granite. There are several old buildings standing at Granite, and foundations of many more.

Granite was a thriving town in the 1880's and later, and some mining has been done as late as 1960. With the present value of silver, Granite may again see mining.

A considerable portion of the area immediately east of Philipsburg had a great deal of mining activity for many years. There are many old mills and buildings in this area, and the area has a great deal of mining history.

Other points referred to on the map on the following page, such as the Forest Service lookouts, Wilderness area entrance points and others are of interest to many people.

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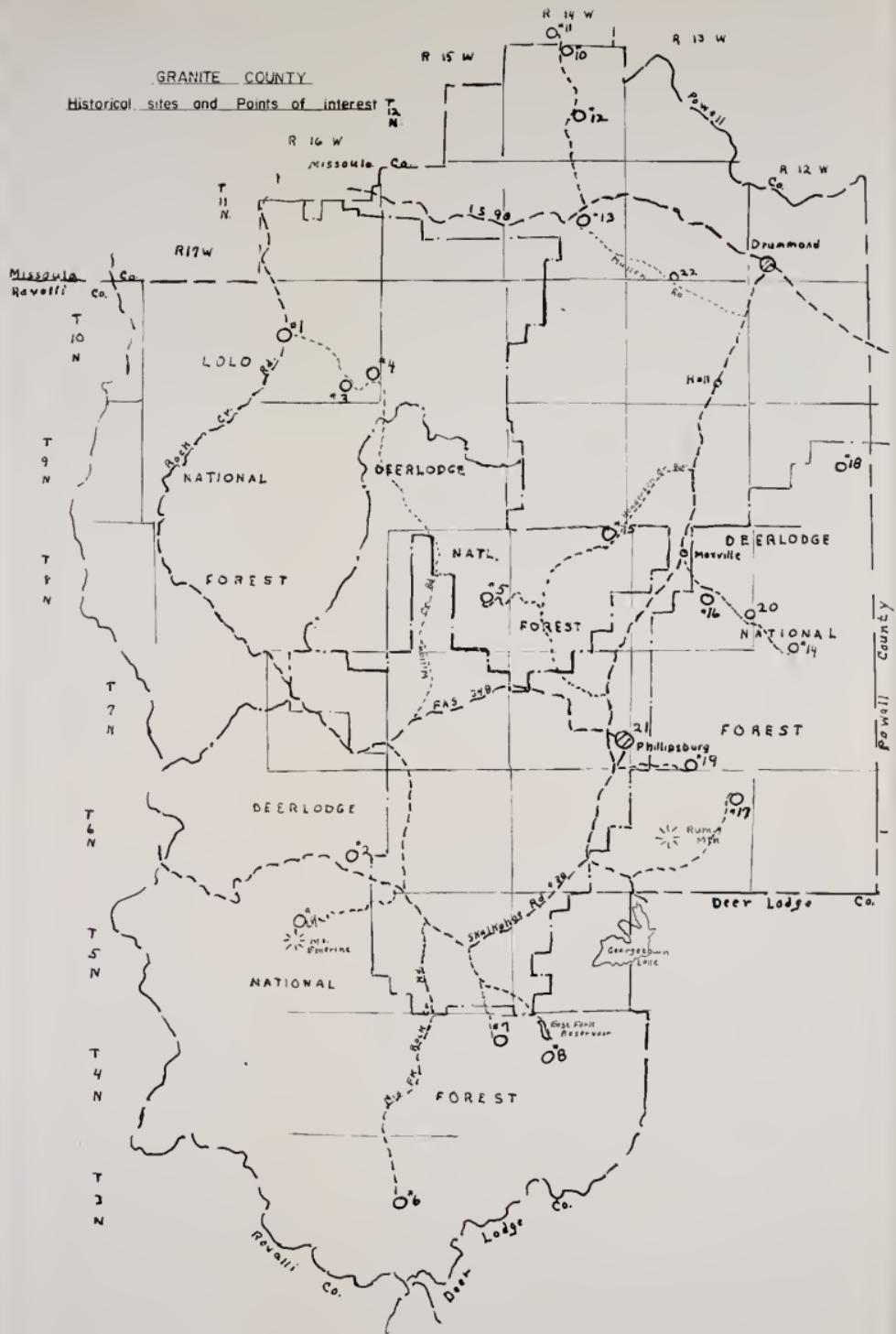
12 W

HISTORIC SITES & POINTS OF INTEREST

Name of site or point	Map No.	Type of past use	Accessible	Remarks
Wigley	1	Mining camp	by car	nothing remaining of camp
Sapphire Mines	2	Sapphire digging	by car	active summer diggings
Lips	3	Mining Camp	by 4x4 sum	same old buildings remain
Liderock Mt.	4	F.S. lookout	by 4x4 sum	good
Black Pine	5	F.S. lookout	by 4x4 sum	good
Wilderness Entrance	6	N/A	car summer	road fair condition
" "	7	N/A	car summer	road fair condition
" "	8	N/A.	trail 1 mi.	
Merine Mt.	9	F.S. lookout	4x4 summer	good
Garnet	10	Mining camp	car summer	buildings being restored
Coloma	11	Mining camp	car summer	some buildings remain
Beartown	12	Mining camp	car summer	buildings all gone
Bearmouth	13	Mining camp	car yr.long	buildings all gone
Brooklyn	14	Mining camp	car summer	old mill still standing
Sunrise	15	Mining camp	car summer	old mill still standing
Royal Basin	16	Mining camp	car summer	buildings all gone
Red Lion	17	Mining camp	car summer	buildings still standing
Master Mine	18	Mining camp	P.U. summer	buildings still standing
Granite	19	Mining camp	car summer	some buildings standing
Princetown	20	Mining camp	car yr.long	buildings still standing
Philipsburg Area	21	Mining & milling	car yr.long	numerous old mines and mills in area.
Agate Bed	22			

GRANITE COUNTY

Historical sites and Points of interest



HISTORIC SITES & POINTS OF INTEREST

Name of site or point	Map No.	Type of past use etc.	Accessible	Remarks
Wigley	1	Mining camp	by car	nothing remaining of camp
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" " "	7	N/A	car summer	road fair condition
" " "	8	N/A	trail 1 mi.	
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Princetown	20	Mining camp	car yr.long	buildings still standing
Philipsburg Area	21	Mining & milling	car yr.long	numerous old mines and mills in area.
Agate Bed	22			

F. ECONOMIC IMPLICATIONS

Increased tourism and recreation will benefit the economy of the county. Increased tourism will add to the services which in turn will add to the employment in the county, and tourism expenditures will add to the county income. With the increase in winter sports, the employment will be for winter as well as summer. Construction of facilities by private parties such as Discovery Basin Ski Complex, and the Bearmouth Chalet, will add to the county tax base.

Properly planned and administered subdivisions can be an asset to the county. On the other hand, improperly planned or improperly located subdivisions can become a liability to the county.

The reclassification of marginal timber or agricultural land to subdivision lots does increase the market value considerably, which in turn increases the taxable value. This will increase more as buildings are built on the lots. If the location and density of the lots are such that the environment is not damaged, and the necessary services rendered by the county are not to great, subdivisions should provide a long term benefit to the county.

Poorly planned and administered subdivisions of land can very easily become a liability to the county. This could very easily be true if high productive agricultural land is subdivided into parcels to small to be used for agriculture. While the market value of this land may be increased considerabl-

above what it is worth for agriculture by subdividing, the loss in production over a long period could more than off set the increased value. Subdivisions located in areas where the cost of additional services such as roads, schooling, police protection etc. is more than is gained by the increase in value, can become a liability instead of benefit to the county.

The two areas in Granite County that have to date been affected most by subdivisions are the Georgetown lake area and the lower Rock Creek area.

In the lower Rock Creek area, there have been eight subdivisions recorded, a total of 600 acres. This has been subdivided into over 200 lots. In addition to this, there are about 180 acres more that has been sold in small parcels of 10 to 15 acres, while a few of these lots are used for year long occupancy, a large percentage is used for recreational residences or summer homes.

Very little if any of the land that has been subdivided in lower Rock Creek was high producing agricultural or high value timber land. The grazing land was classified as G-5 or poor. The wild hay land was W-H-6, which is very low in production. The timber land was classified ponderosa pine-poor. The average assessed value of the land prior to the subdivision was \$6.00 per acre. The assessed value of the same land after subdivision is \$250, or forty times the old value. The change in use of this land has increased the cost of road maintenance, bussing of school children, etc. No data is available on these costs, of maintenance, or what percent of the use of the road is contributed to subdivision activities,

so no comparison can be made.

The land that has been subdivided in the Georgetown lake Basin was in about the same classification as the lower Rock Creek area as far as agricultural or timber land values. The difference is that the land at Georgetown after subdividing has a higher market value than on lower Rock Creek land.

It does appear that the subdivision of this type of land, if properly planned and administered should become a financial benifit to the county.

Granite County is an important big game area. Some types of big game are found in nearly all parts of the county during certain parts of the year. (See game habitat map on page 112 for winter game ranges). A large portion of the big game summer and fall range is on public land, and the more remote private land. The competition between big game and domestic livestock for summer and fall range is not a problem at present.

The number of big game most ranges support is dependent on the winter forage.

In Granite County as in most mountainous areas, the game are forced into the lower foothills during the winter and early spring. These areas are either private land or public lands being used to some degree by domestic stock. This makes the number of game animals the county can support to a large extent dependent on what private land owners will tolerate.

The Forest Service and Bureau of Land Management through the cooperation of the permittees and working with the Fish and Game Department are adopting range management systems to help keep the game on public land by protecting key game range areas from intensive use by livestock. This will alleviate the problem to some extent in some areas, but in other areas the only game winter range is on private land.

The Fish and Game Department and local Sportsman's groups have fenced haystacks in many areas to prevent loss to the ranchers from elk, but there are still problem areas, especially during a severe winter. One of the problems that develops is that private lands grazed in the summer and fall by livestock, receive additional use in the winter by game. This dual use may become damaging to the resource.

Big game hunting does contribute to the economy of the county. There are about eight outfitters or guides in the county that at least supplement their living from big game hunting. There are several thousand hunters using Granite County each year, and most of them do contribute something to the economy of the county, as well as the other benefits they derive from this recreation.

Granite County supports many miles of fishing streams and numerous lakes, that support fish. Some fishing is done in nearly all portions of the county except the area north of the Clarks Fork River. The Clarks Fork river and most of the natural lakes in the county are open to fishing all year, which adds to year long recreation. Georgetown lake, which is possibly the favorite fishery in the county is open during the regular fishing season, and also open for winter fishing from

December through February. Although fishing pressure is heavy in some of the easily accessible areas, such as Georgetown lake and Rock Creek, these areas continue to be good fishing.

One of the reasons fishing is a popular form of recreation in Granite County, is that most of the streams and lakes are open to fishing. A large percent of the streams and lakes are on public land, which is all open to the public. Many of the streams on private land are also open, although permission from the land owner is required in some cases.

While the monetary value to the county and the community derived from recreation in Granite County is unknown, it is a known fact that many thousands of people are benefited by the recreation provided in the county.

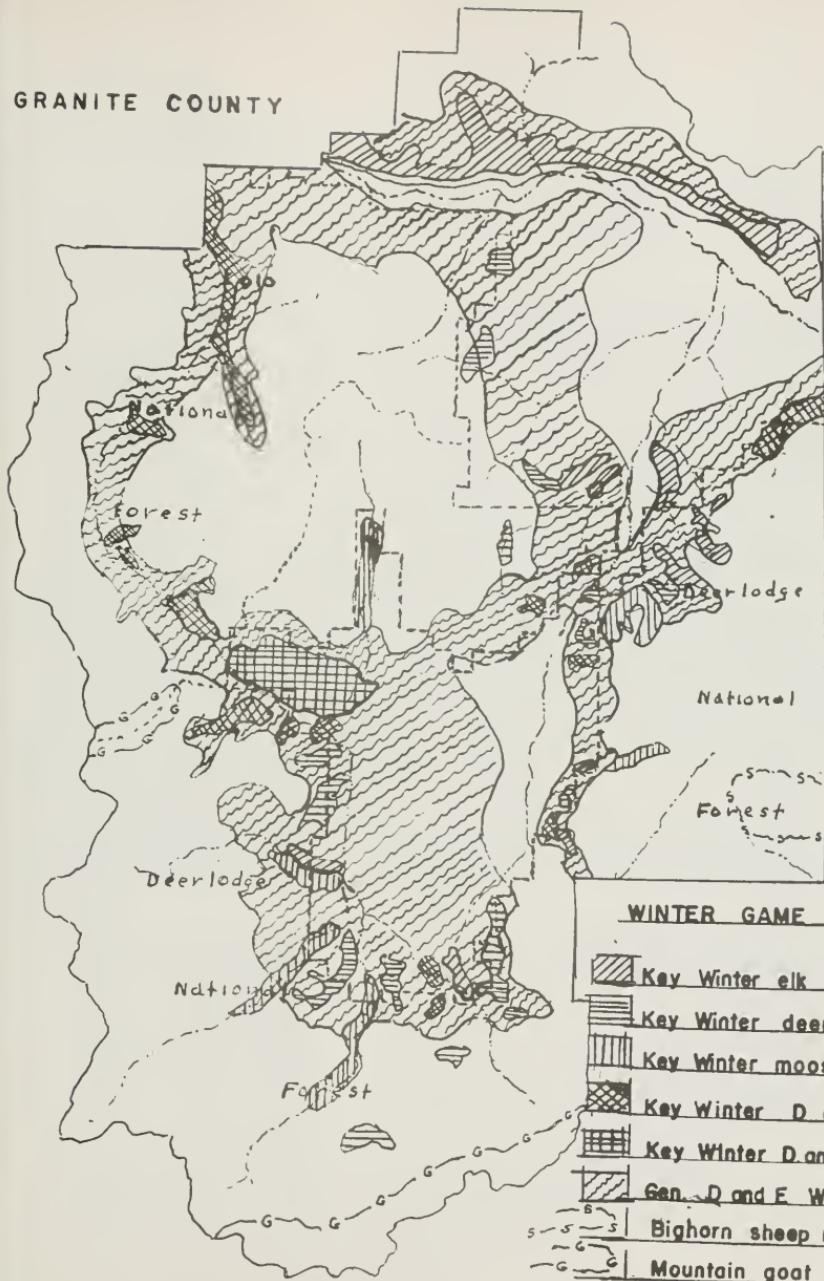
Rock hounding is a recreation that draws people from all portions of the globe. Granite County has much to offer along this line. At present the Chaussee Sapphire mines on West Fork of Rock Creek have a commercial enterprise involving panning sand and gravel for sapphires. During the summer season as many as 200 people a day pan for these stones. Other stones and jewelry and the faceting of stones are also available at Chaussees. The Montana Sapphire is considered one of the more precious jems.

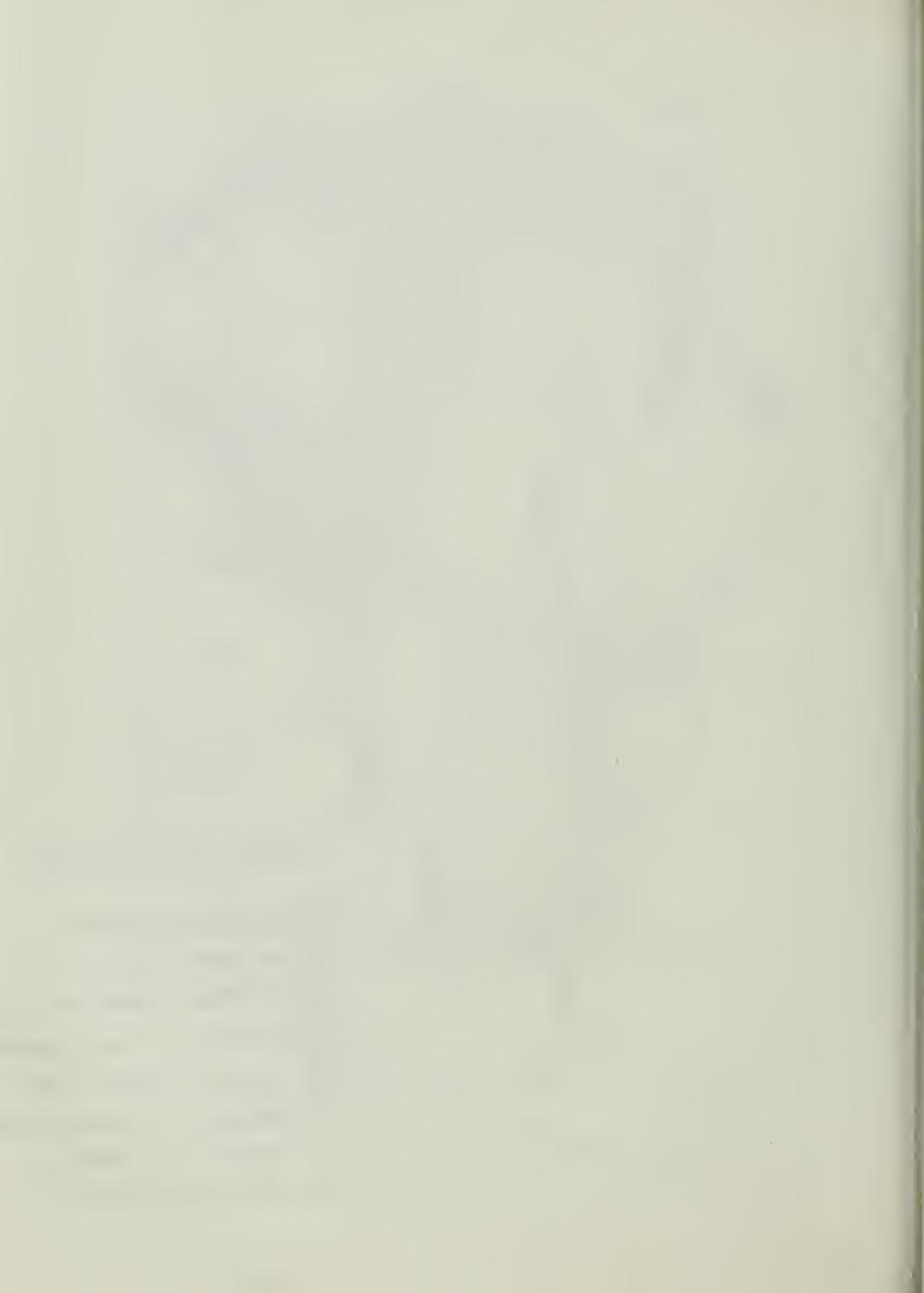
Aside from Rays Rock shop in Drummond and Deans Rock Shop in Philipsburg, Little is being done in the county to promote interest in this area.

A large portion of Granite County has snow conditions that make snowmobiling an important form of recreation. At present time the Garnet area has snowmobile trails marked and is getting as much as 125 users per day during week-ends. Another area of heavy snowmobiling is the North Fork of Flint Creek. Snowmobile trails have been marked on parts of this area. Georgetown and Echo lake are favorite areas. Snowmobiles are available for rent at some of these areas.



GRANITE COUNTY





XI. HOUSING

A. FIELD SURVEY

The Housing goal, as adopted by the Planning Board, was to "promote adequate housing" for all present and future residents of Granite County.

In order to know what the present status of the housing in Granite County is, a survey of structures was made by the Planning Staff in July of 1973.

A field survey was conducted on the conditions of the residential structures in Granite County. The field survey was based upon a subject evaluation by the survey team of the condition of structures based on readily visible external evidence. The structures were rated according to the four categories - very good, average, deteriorating and dilapidated. For the purpose of this report, very good and average housing will be grouped together and called sound. The following definitions will be used in this section:

Sound Housing - Units which have no defects, or few defects which would be corrected during the course of regular maintenance.

Deterioration Housing - Units which need major repairs or which have serious defects.

Dilapidated Housing - Units which do not provide safe and adequate shelter, and in their present condition, endanger the health, safety, or well being of the occupants.

Housing Unit - Single family housing and apartment, but not hotel, boarding and housing facilities.

In this report, the County will be broken down into several areas which will be considered separately after the general county report.

B. GENERAL COUNTY

Many of the ~~residents~~ ^{residences} of Granite County were constructed about the turn of the century. Some of these are still in use in the original design, others have been remodeled, and are in good condition. The 1970 census shows that 65 percent of the residences in the county were constructed prior to 1929.

TABLE H-1

Item	General Housing Characteristics - (County wide)			Remarks
	1960	1970	1973	
Total housing units	*1235	**1345	1323	single family
			88	---
Occupied	* 961	**1048	1266	-----
Renter occupied	316	279	-----	15% decrease
Owner occupied	645	645	-----	-----
Summer homes	---	** 124	*** 283	128% increase
Mobile	---	** 113	*** 222	96% increase
Vacant	* 273	297	57	200% decrease
Sound Condition	-527 (42.6%)	971 (73.4%)		Does not
Dilapidated Condition	-206 (16.8%)	286 (21.6%)		include
Deteriorated Condition	-501 (40.6%)	66 (5.0%)		Multi-family
				residences
Units with Basements		506		
Units with Telephones		702		
Units with Flush Toilets		1104		
Units with Complete plumbing		1058		

Ref. H.I. Break down by classes etc.
Ref. Map H - I Break down by townships

* census (1960)

** census (1970)

*** 1973 Planning Staff Survey

The 88 multi-family units shown in the 1973 survey on Tables H-1, were not considered in the condition survey. Owner or rental data is not available for 1973, nor is the data on telephones etc.

The 1973 survey shows an increase of 66 total housing units over 1970, or 5 percent. A further breakdown of this shows an increase of 159 (128%) summer homes, and 109 (96%) mobile homes. This indicated a decrease of 202 residences. This decrease can be largely attributed to the variation in what the planning staff considered a residence. It is quite evident that the 1970 census listed vacant buildings as residences that were not included in the recent survey. The Planning Board staff did not include old residences that were vacant and not liveable.

The significant changes between 1970 and 1973 is in the number of summer homes and mobile homes in the county.

Mobile homes constitute 16.8 percent of the single family housing units in the county in 1973, compared to 8.4 percent in 1970.

Summer homes are 21.4 percent of the total single family housing units in 1973, compared to 9.8 percent in 1970. A large percentage of the summer and mobile homes are non-resident owned.

The significant improvement in the condition of housing in the county as a whole as shown in Table H-1 is a result of several factors. Mobile homes in good condition have replaced many of the poorer houses in both Philipsburg and Drummond. There has been a continuing improvement of ranch homes and old ranch homes are being replaced by new buildings. Construction of good summer homes is also a factor.

C. RURAL COUNTY HOUSING

The county rural area housing is very similar to the general county housing. The main difference is that the housing in the rural area is, on the average, better than the county housing which includes Philipsburg, and Drummond.

There is a wide variation of density in housing in the rural area of the county. There are 50 townships or portions of such, of which 17 have no housing. These are chiefly Federal lands. Of the 33 townships with housing there is a variance in number of housing units from one per township to a maximum of 234. While the average density of family residences per township in the rural area is very low, there are areas of rather high density where additional building is continuing at an accelerated rate. An area at Georgetown Lake, of approximately 450 acres of private land presently supports 224 family units. Some of the housing areas have a density that is in excess of the present state requirements and could become a health and sanitation problem.

The 1970 census shows a decrease of 10 percent in ranches between 1959 and 1969. This factor, and an increase in automation in ranching, has decreased the number of ranch families. This is being more than compensated for by the non-ranch families, that are moving into the rural areas. Many of these are year long residences. Areas where this is occurring to a greater or lesser degree, are lower Rock Creek, Clarks Fork River area west of Drummond, Hoover and Firestone Tracts south of Drummond, Hall and Maxville areas, Boulder Creek, and Georgetown Lake area. It is very likely that this pattern will continue and possibly increase in the north and Northwest portion of the County as Missoula expands and Interstae 90 has been completed. A substantial increase in family units in the Georgetown Basin can be expected when the industry in Anaconda expands, and Discovery Basin Ski area is developed. Other areas can expect lesser developments depending on development of additional subdivisions etc.

RURAL COUNTY HOUSING

Table H-2

Items	No single family units	% of Total
Single Family dwellings (occupied)	766	97.7
Single Family dwellings (vacant)	18	2.3
Mobile Homes	153	19
Summer Homes	283	37.0
All other	348	43.2
Sound condition*	623	79.2
Deteriorated*	129	16.5
Delapidated*	32	4.0
Sound condition**	260	75.5
Deteriorated**	65	18.5
Delapidated**	22	6.0
Sound condition ***	130	85.0
Deteriorated***	21	13.7
Delapidated***	3	1.3
Sound condition ****	231	81.5
Deteriorated****	43	15.2
Delapidated****	7	3.5

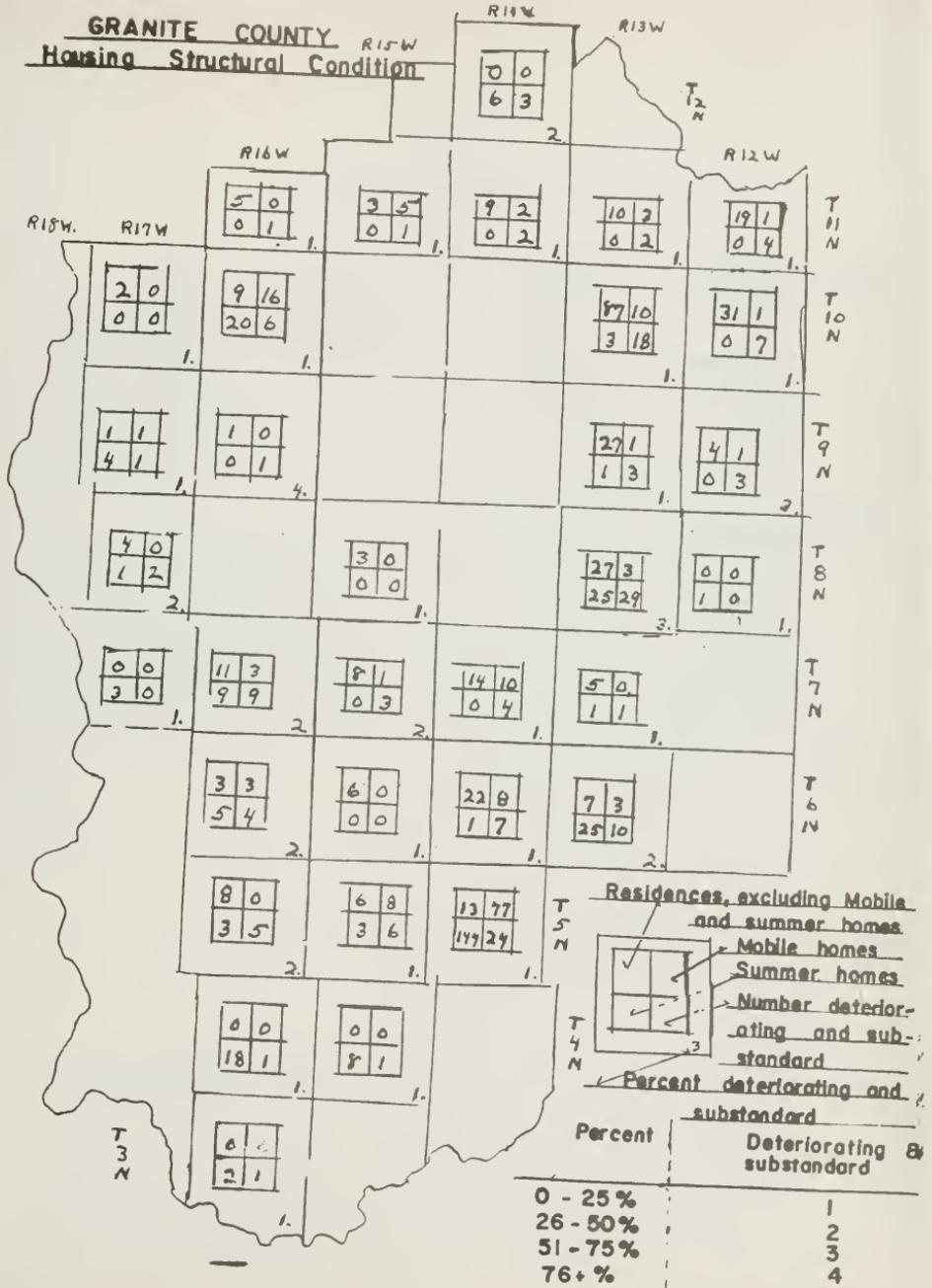
* All family units including Residences, Mobile Homes and summer homes

** Residences only

*** Mobile Homes

**** Summer Homes

GRANITE COUNTY R15W
Housing Structural Condition



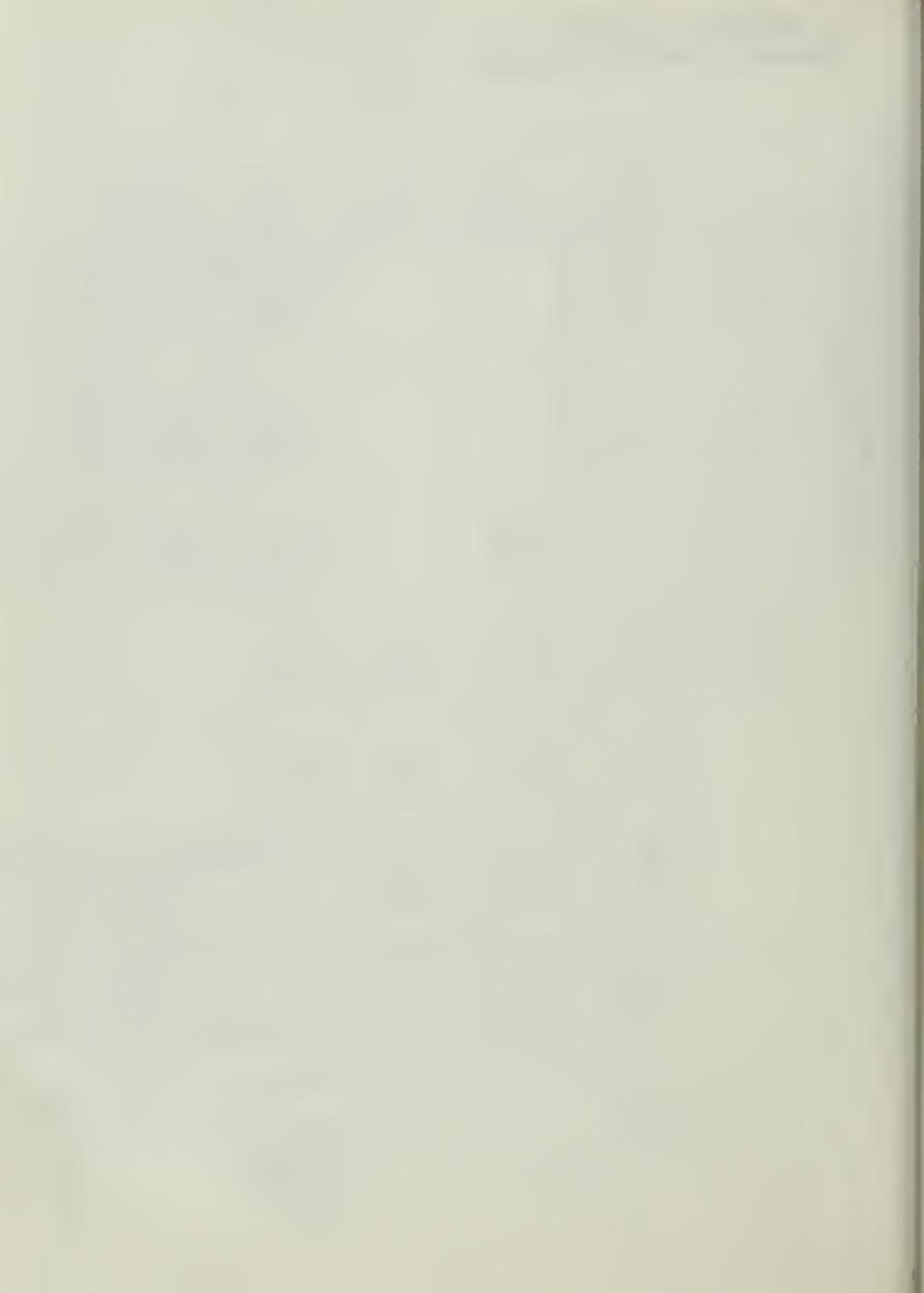


TABLE H-3
(Philipsburg Housing)

<u>Item</u>	<u>Number</u>	<u>Percent of total</u>
Single Family units (occupied)	362	92.1
Single Family units (vacant)	31	7.9
Mobile Homes	42	10.6
Sound Condition*	180	51.2
Deteriorated*	138	39.0
Delapidated*	33	9.8
Sound Condition**	42	100
Deteriorated**	--	---
Delapidated**	--	---
 <u>Item</u>	 <u>Number</u>	 <u>Percent of total</u>
Total blocks in city	114	100%
Blocks with Family living units	80	71
Blocks - 75% deteriorated and dilapidated	19	23.5
Blocks - 50-74% det. or del.	10	12.3
Blocks - 25-49% det. or del.	22	27.2
Blocks - 0-24% det. or del.	29	36.0

* Residences-All single Family

** Mobile homes

D. PHILIPSBURG HOUSING

Philipsburg is an old mining town with many of the residences still in use having been built about 1900. Some of these houses have been remodeled and kept in good repair and condition, while others have been neglected and are deteriorating.

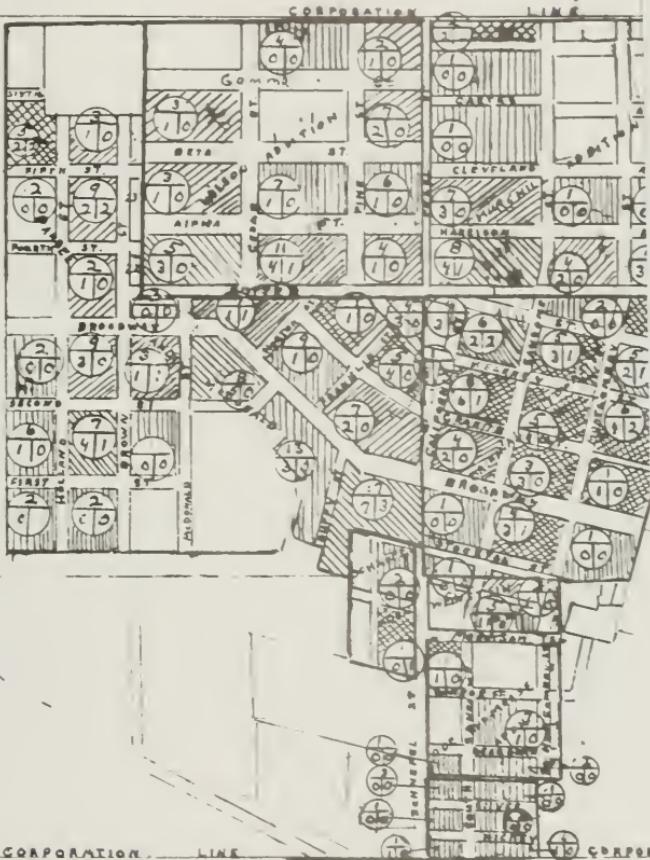
There are some very good, relatively new residences in town, but limited building has been done in the past decade or two.

The percent of family units in sound condition is 51.2 percent, compared to 75.5 percent for the rural area of the county. There is a need in town to upgrade the housing, as houses are being occupied that are below the minimum standard for health and safety. The one factor that is helping to compensate for this condition is that mobile homes are replacing other residences.

The town has good building sites within the corporate boundary. There seems to be no major problems, such as drainage, slope etc.

The 41 multi-family units in Philipsburg have not been included in this report.

MAP
of the CITY of
PHILIPSBURG, MONTANA



Present Having Condition

Legend

Total Housing Units
Number Deteriorating
Number Substandard

% Deteriorating + Substandard
0 - 25 %
26 - 50 %
51 - 75 %
76 + %



D. PHILIPSBURG HOUSING

Philipsburg is an old mining town with many of the residences still in use having been built about 1900. Some of these houses have been remodeled and kept in good repair and condition, while others have been neglected and are deteriorating.

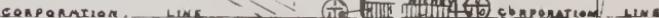
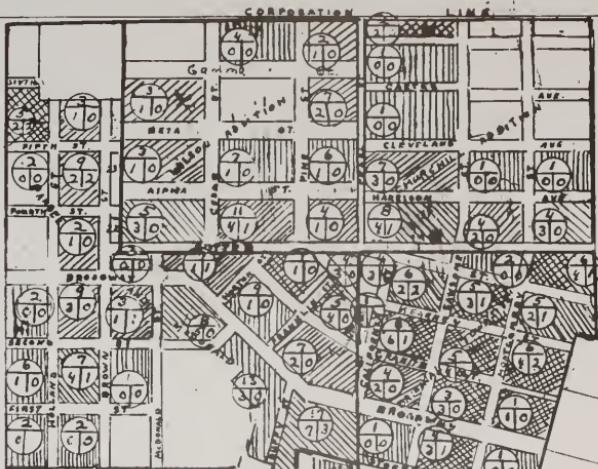
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MAP
of the CITY of
PHILIPSBURG, MONTANA



Present Housing Condition

Legend

Total Housing Units

Number Deteriorating
of units Out of Standard

Number Substandard

Deteriorating + Substandard

0 - 25 %

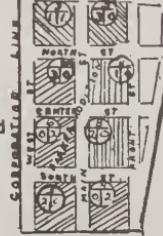
26.50 %

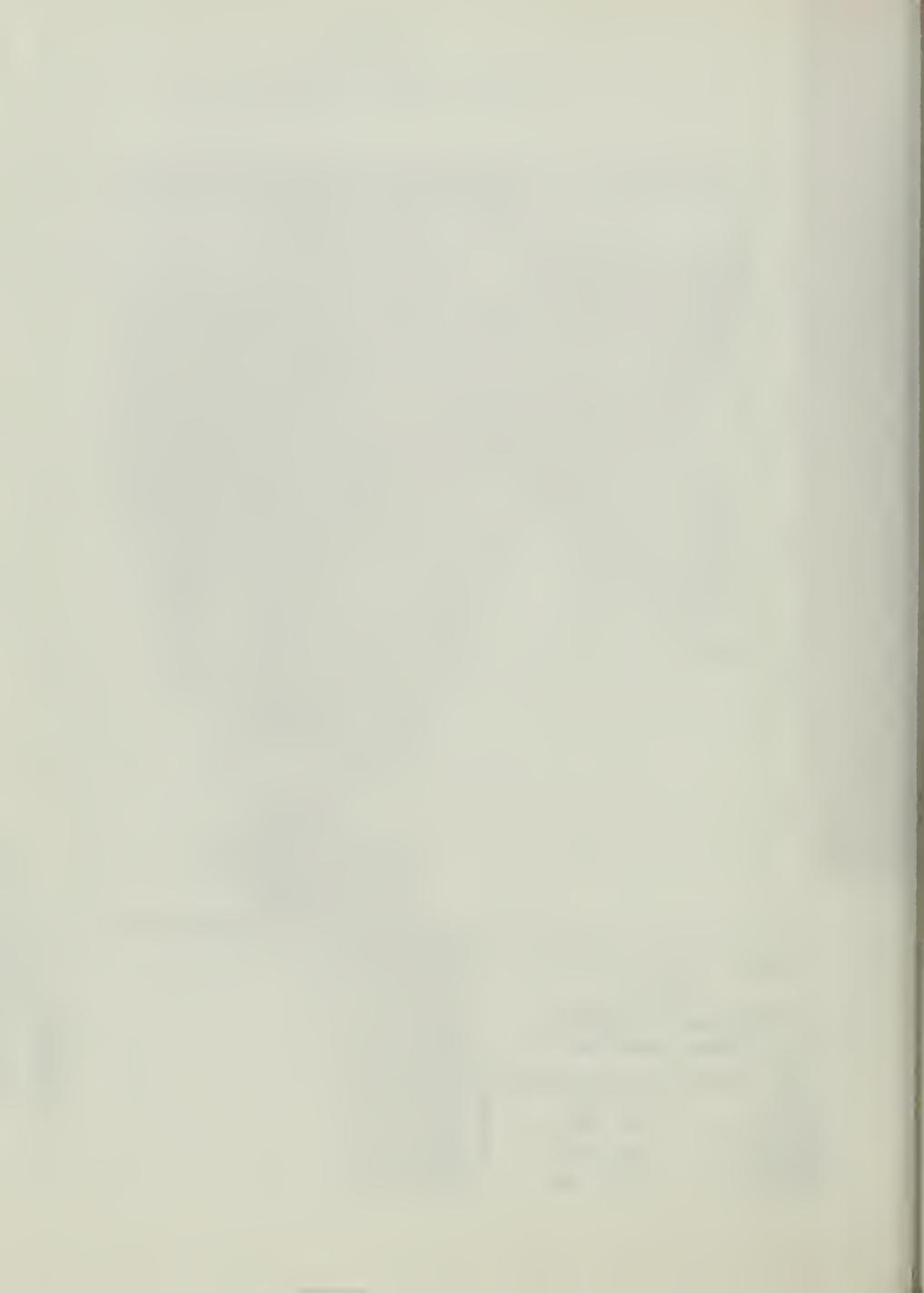
26.50 %

51 - 75 %

76 + %

107 M





E. DRUMMOND HOUSING

The original town of Drummond was built about 1900. Some of the original residences are still in use. Most of them have been remodeled to a great extent. There has been some construction of new residences periodically. When Interstate 90 was built, it caused some of the better houses to move. Some of these were moved out of the city limits. The I-90 construction also did away with some of the older houses.

At present the single family unit housing in Drummond is comparable in condition of structures, to the general county.

A sizeable portion of Drummond, (Tracts J, K & L, of the old Col. Morse Addition, has not been laid out by streets, blocks or lots. Portions of these tracts are in an area of high water table and are not suitable for building sites.

There are three subdivisions adjacent to Drummond, namely Hoover Tracts, Firestone Acres, and Lyons Subdivision, that are suitable sites. The Lyons subdivision has not had any improvement made on it. It has been surveyed, and a plat has been filed. No lots have been sold.

Favorable vacant residential building sites in the city of Drummond are limited. If the residential portion of Drummond is to expand to any degree, it will very likely need to be outside of the present corporate boundary.

The 47 multi-family units in Drummond have not been considered in this report.

TABLE H-4
(Drummond Housing)

<u>Item</u>	<u>Number</u>	<u>% of Total</u>
Single Family units (occupied)	138	94.5
Single Family units (vacant)	8	5.5
Mobile Homes	27	19.6
Sound condition*	126	86.3
Deteriorated*	19	13.0
Delapidated*	1	0.7
Sound condition**	27	100
Total No. blocks in city@	22	100
Blocks with residence units	18	81.8
Blocks 75% Det. or del.	1	5.5
Blocks 50 - 74% det. or del.	1	5.5
Blocks 25 - 49% det. or del.	3	16.7
Blocks 0 - 24% det. or del.	13	72.3

* Residences - All single family

** Mobile homes

@ Includes tract J, K & L, of Col. Moore Addition and tract in Edward's Gulch

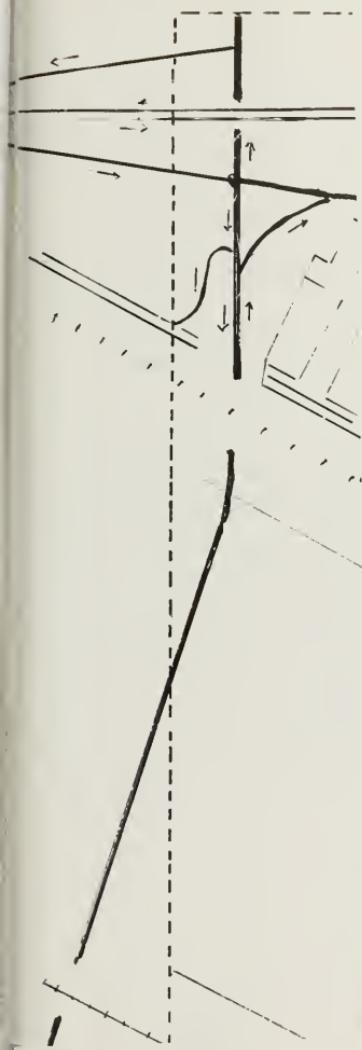


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* Residences - All single family

** Mobile homes

@ Includes tract J, K & L, of Col. Moore Addition and tract in Edward's Gulch

CITY OF
DRUMMOND
GRANITE COUNTY

Present Housing Condition

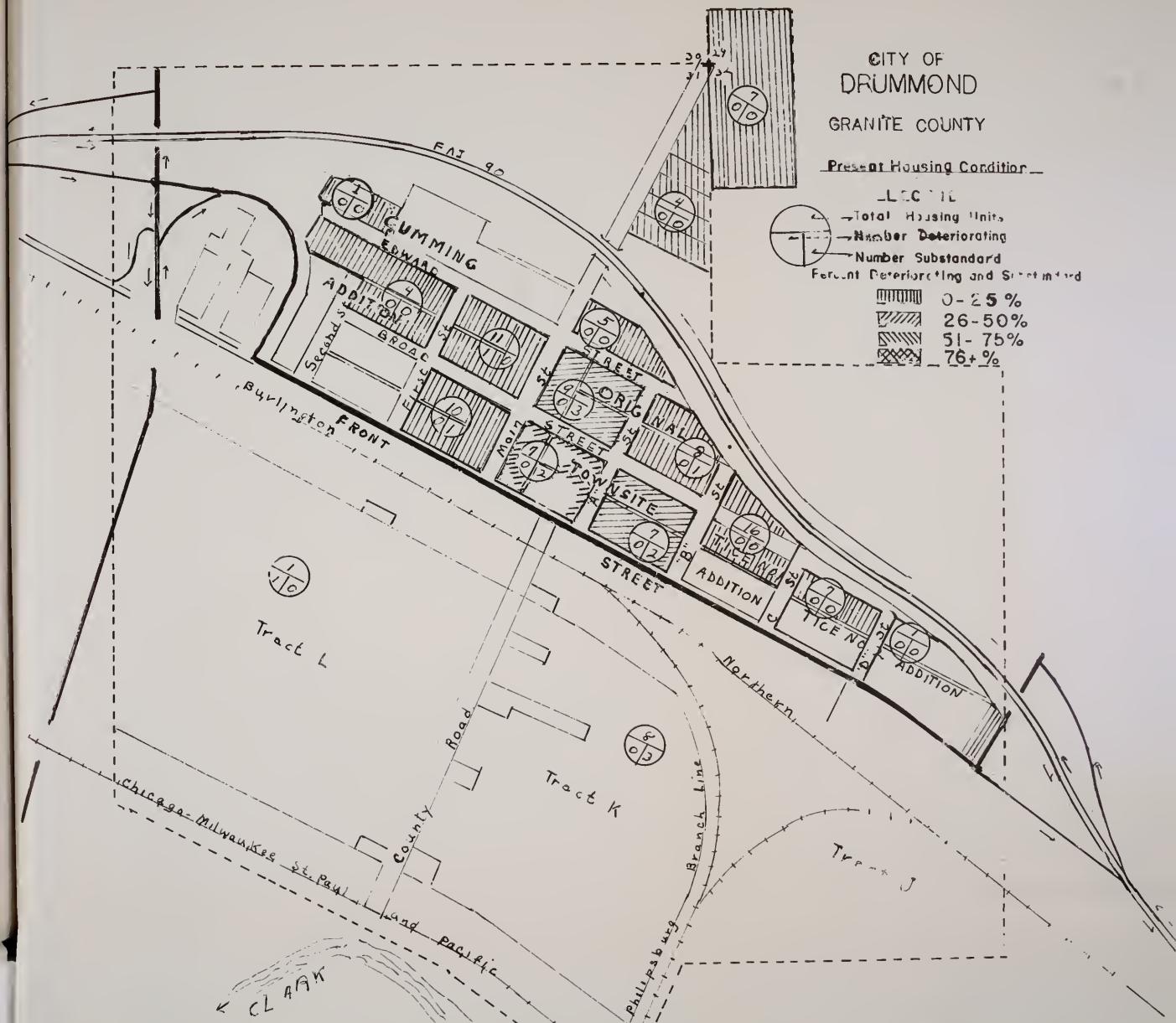
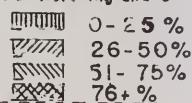
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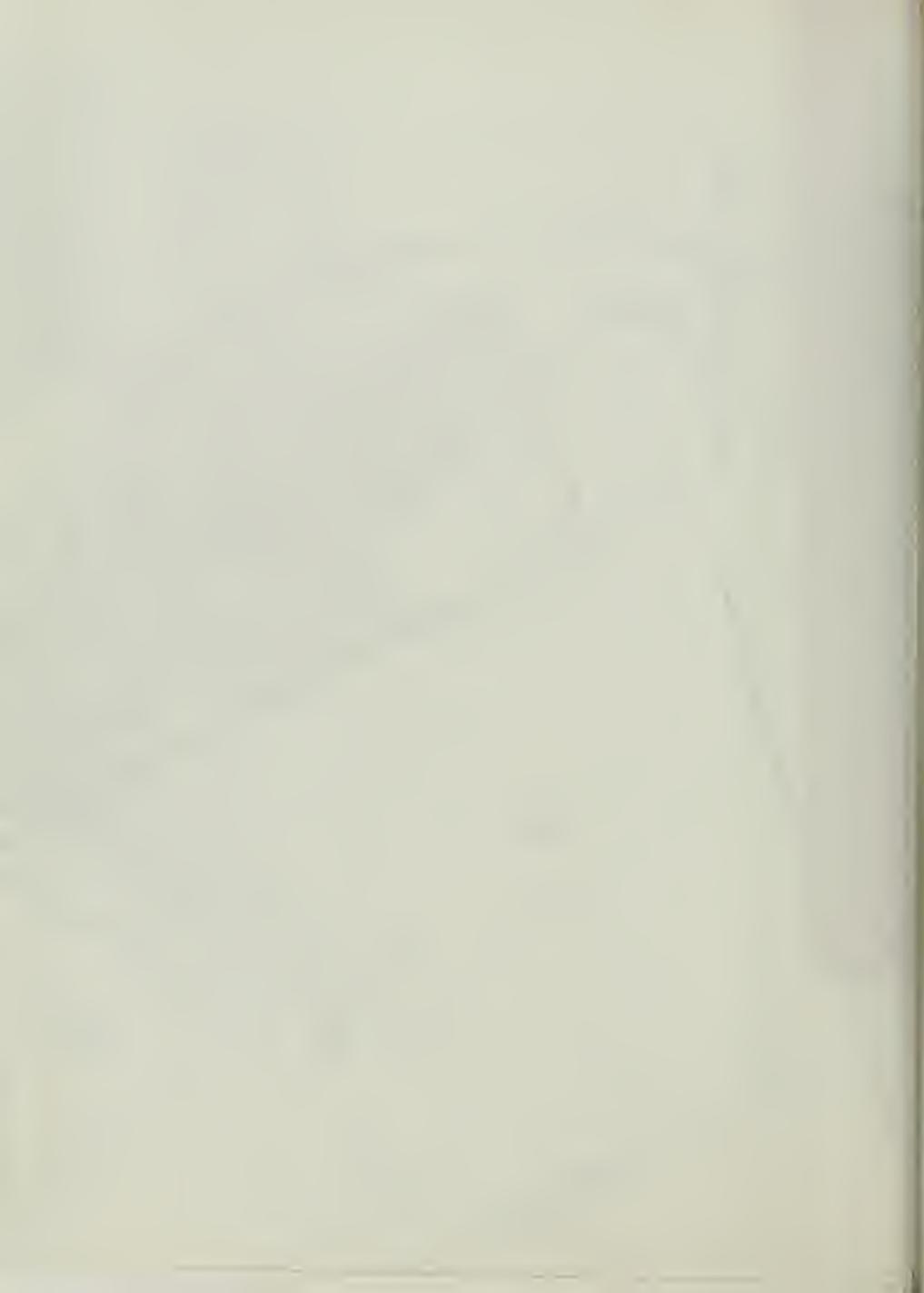
→Total Housing Units

→ Number Deteriorating

→ Number Substandard

Final Experiments and Summary





F. HOUSING PROJECTION

The present total increase in housing units in the county is about 5 percent annually. There is, and has been for some time in the past a substantial decrease in constructed year long residences. This decrease has been more than offset by almost a 100 percent increase in mobile homes from 1970 through 1973, and a substantial increase in the number of summer homes being constructed in the Georgetown and lower Rock Creek areas.

Unless there is a decided improvement in the economy of the county from some industry such as mining this trend will very likely continue. Mobile homes will continue to increase county wide, and they will be replacing some of the deteriorating and sub-standard dwellings. If the economy holds, at near the present level or improves, there will continue to be an increase in summer homes in some areas of the county.

The total number of housing units should continue to increase at least at the present level or better through 1980.

XII. LAND USE

A. LAND USE DENSITY STANDARDS

Land use density standards provide guidelines on the intensity of development which should be allowed based on limited physical characteristics or desired land uses. The land use density standards proposed for Granite County have been developed from an analysis of existing land uses, current development trends, and in conformance with the goals and objectives of the county.

HIGH PRODUCTIVE AGRICULTURE

The economic base of Granite County is agriculture. In order to protect the agricultural economy of the county those lands which are currently or have potential to be high productive agricultural lands must be protected from development and retained in agricultural production. High productive agricultural levels are shown on map on page 132.

1. Agriculture

Much of Granite County lies in the medium or low agriculturally productive land areas. These areas contribute much to the agricultural economy, but it is recognized that there is also a demand for recreational land in the county. To protect the rural atmosphere in these areas and to protect potentially fragile areas from over-development, a relatively low density of development is needed.

2. Residential

Provisions must be made for living units such as single family duplex, and multi-family residential units, modular and mobile homes, and supplementary uses such as schools,

churches, parks, and playgrounds. The densities allowed for these uses vary widely, and therefore several densities are allowed depending upon the particular location and situation.

a. Low Density

On those lands that have slopes up to 20 percent, where public facilities such as water and sewer are not provided, and in areas that may be irreparably damaged if high density development occurs, development should be kept to low densities. It is also recommended that a maximum density of one housing unit per 3 acres be used as the development density guidelines. This is for a rural development area, whereas medium and high density would be for urban areas.

b. Medium Density

Medium density development has the greatest potential of providing public amenities while maintaining sufficient open space for a high quality atmosphere. Medium density can occur on land that has up to 15 percent slope, where public facilities and utilities can be provided, and where soil conditions are favorable. Medium density developments for Granlite County are recommended to be not greater than one residence for each 10,000 square feet of lot area.

c. High Density

High density development should occur near existing developments or where the potential for large developments is favorable. High density development should be near good transportation facilities, should be on slopes of 5

percent or less, have public utilities and facilities available, have good access to business and shopping districts, and be compatible with surrounding land uses. It is recommended that a minimum of 8,000 square foot lots be allowed with a density not to exceed one family unit for each 2,500 square foot.

3. Commercial

Commercial development is tied closely to community development. Increasing incomes and populations create opportunities for expanded commercial development. Commercial lands are considered in two categories: intensive development and extensive development. Intensively developed commercial areas, the central business districts, depend on pedestrian movement and close shopping areas for commercial activity. This is the major commercial facility of the trade area and should be maintained to hold the business of the local residents in the face of competition from nearby urban commercial centers. Extensively developed commercial areas, the highway-oriented businesses, depend on vehicular access for their patronage. They require large amounts of parking space, a flow of traffic and ease of access for that traffic. Unplanned extensive commercial activity resulting in strip commercial development along highways should be discouraged because this type of development detracts from the strength of the central business district and creates traffic hazards by congesting the roadways along which it is located.

Commercial areas must insure adequate vehicular access, provide adequate parking space, include a proper mix of commercial uses in the area which it is serving, and blend with the character of the community. The variety of possible commercial uses is so great that no attempt is made at setting specific density limits. Density of commercial areas should be evaluated on providing adequate space to serve the intended use and satellite facilities such as parking.

4. Industrial

Industrial activities such as mining, manufacturing, and other industrial uses should be situated so as to minimize possible adverse effects on adjacent areas. This would include being located downwind from any areas of residential development. Although Granite County does not have an excess of industrial activity at this time, there is potential for an increase in mining due to current high market prices and a shortage of minerals.

Sites for industrial activity must have adequate public utilities, access to good transportation facilities, adequate surrounding area for future growth, and be compatible with adjacent land uses. It is recommended that a minimum of 10,000 square feet be required for industrial uses of any type with larger areas required depending on the nature of the industrial activity.

5. Community developments

Community developments are needed to serve the county. Community developments should be developed at a rate commensurate

with the progress of other community developments, and should be centrally located in the area served.

Fire stations are an important part of the community.

Fire stations should be spaced with regard to population and building densities, have direct access to principal highways, and be free of barriers which may cause delays. Volunteer fire departments should have call sirens located to sound throughout the area from which volunteers are summoned.

Recreation areas should be distributed so as to best serve the community needs. In areas of low population such as Granite County, it is recommended that playgrounds and ball parks be developed in conjunction with school sites to reduce construction and maintenance costs.

Schools should provide sites free from noise, dust, and traffic hazards. It is desirable that schools also be located away from arterial highways, commercial, and industrial areas. The site should be accessible by walks and drives that are properly protected from traffic and other accident hazards. School sites should be sufficient to provide adequate space for all school facilities and activities. Recommended site sizes are as follows:

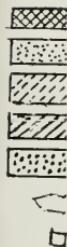
Elementary Schools: 1,2, and 3 rooms-----2 acres minimum

Other elementary-----5 acres for up to 300 pupils

1 acre for each additional 100

High Schools: (excluding football stadiums)
10 acres for up to 300 pupils

1½ acres for each additional 100



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Elementary Schools: 1,2, and 3 rooms-----2 acres minimum

Other elementary-----5 acres for up to 30 pupils

1 acre for each additional 100

High Schools: (excluding football stadiums)

10 acres for up to 300 pupils

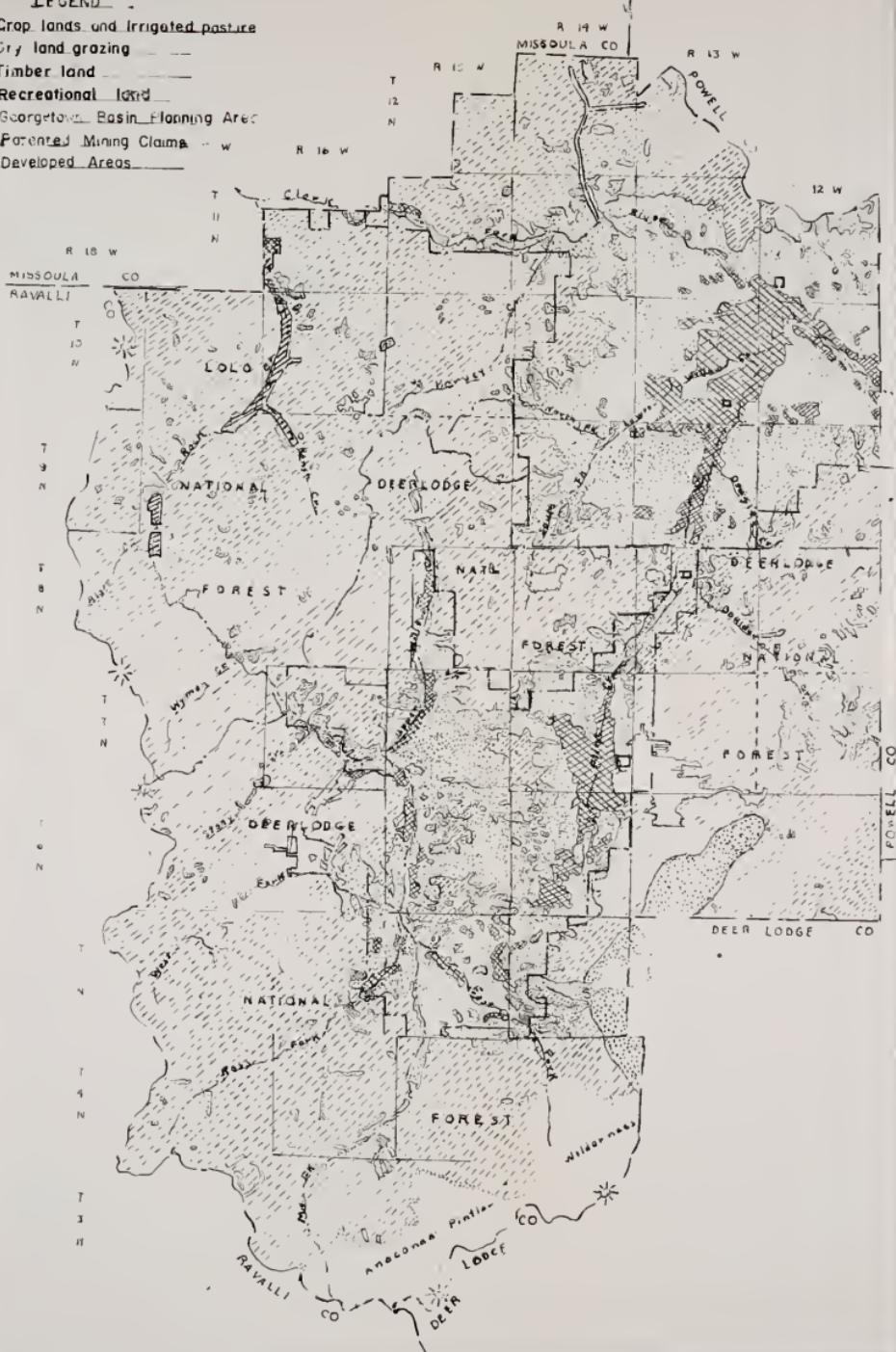
1½ acres for each additional 100

GRANITE COUNTY

Present Land Use Map

LEGEND

- Crop lands and irrigated pasture
- Dry land grazing
- Timber land
- Recreational land
- Georgetown Basin Planning Area
- Parented Mining Claims - w
- Developed Areas



B. EXISTING LAND USE

1. General:

A communities growth is reflected in its present land use patterns. As activities develop within the county, the land necessary for these activities is put to use and assume a land use classification. Existing land uses reflect a large investment in land that supports the activities by which people make their living and where they live. Future planning must take this investment into account when proposing changes in land use.

There are 1,109,120 acres of land in Granite County. 708,452 acres of this is Federal land, which is classified as 646,483 acres forested and 61,969 acres range and other. The 400,668 acres under private, state and county ownership is classified as 37,092 acres of cropland, 194,279 acres range and pasture, 159,411, acres forested, and 6,203 acres urban and built up lands (including farm steads cities etc.), and 3,683 acres of other lands and water areas.

At present, ranching and logging are the two major land use enterprises in the county, with ranching making the greatest economic return to the land.

The major use of the 37,092 acres of cropland in the county is hay production. Over 200,000 acres of the state, county and private land within the county is used as range-land, grazing of native vegetation, of which 40 percent is in only fair to poor condition.

Recreation developments including subdivisions, summer homes and other recreational facilities are developing at a rapid pace in portions of the county, such as lower Rock Creek, Georgetown, and Echo Lake areas. There are other areas being developed at a lesser rate. These developments have changed the use of both public and private lands affected. To date this has not had much impact on agricultural production as most of the land affected has been marginal agricultural lands. The highest and best use of some of these lands could very well be recreational use.

Recent sales of good agricultural land for subdivision could affect the economy of the county if these lands are taken out of production.

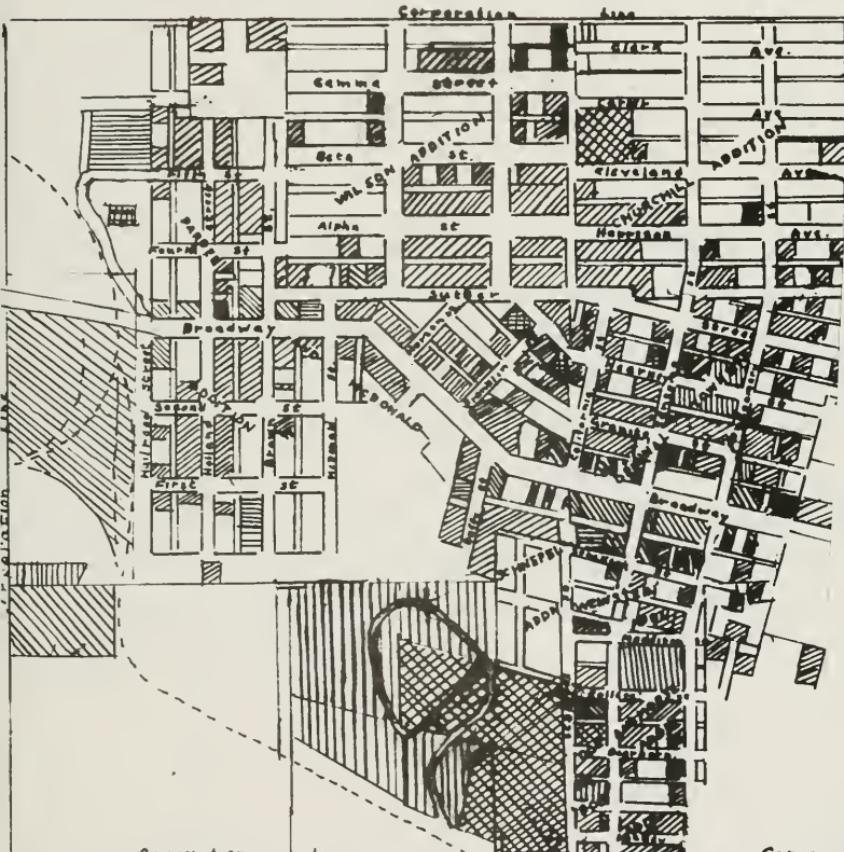
Prices paid for these lands are in no way related to the productivity of the land.

Existing land use for the lower Rock Creek and the Georgetown lake basin areas is covered in the Comprehensive plans, written for these areas.

2. Philipsburg

The existing land use for Philipsburg is shown on the map on the following page. There is considerable vacant land inside the incorporated boundary of Philipsburg that is suitable for development for either light commercial or residential use. There is also land in the main business portion of the city that is at present occupied by vacant buildings that could either be reconditioned or replaced by more servicable structures.

MAP
of the CITY of
PHILIPSBURG, MONTANA



Corporation

SENT LAN

- Residential
- Commercial
- City - County
- Schools
- Trailers - Condos
- Church
- Apartments

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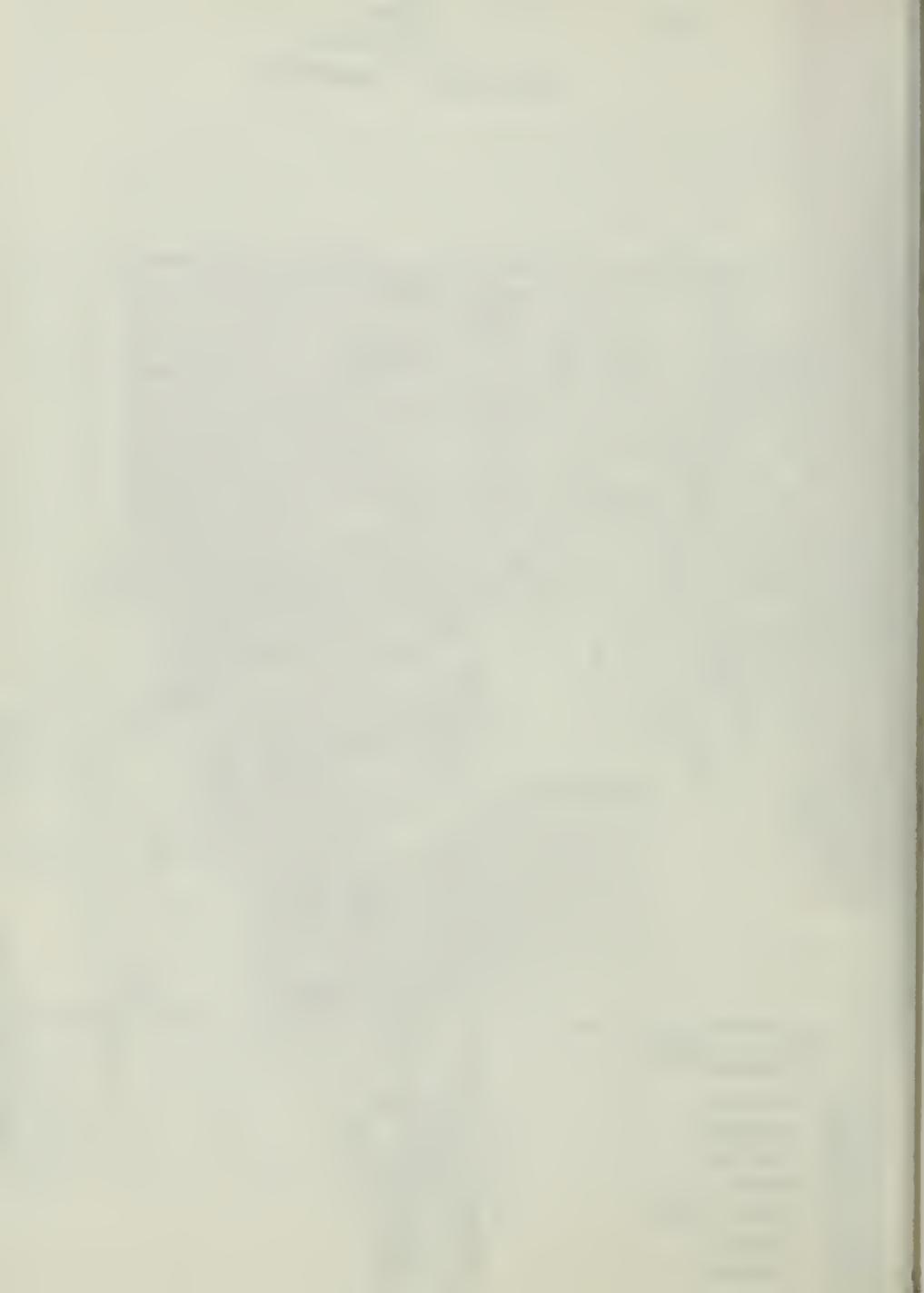
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MAP
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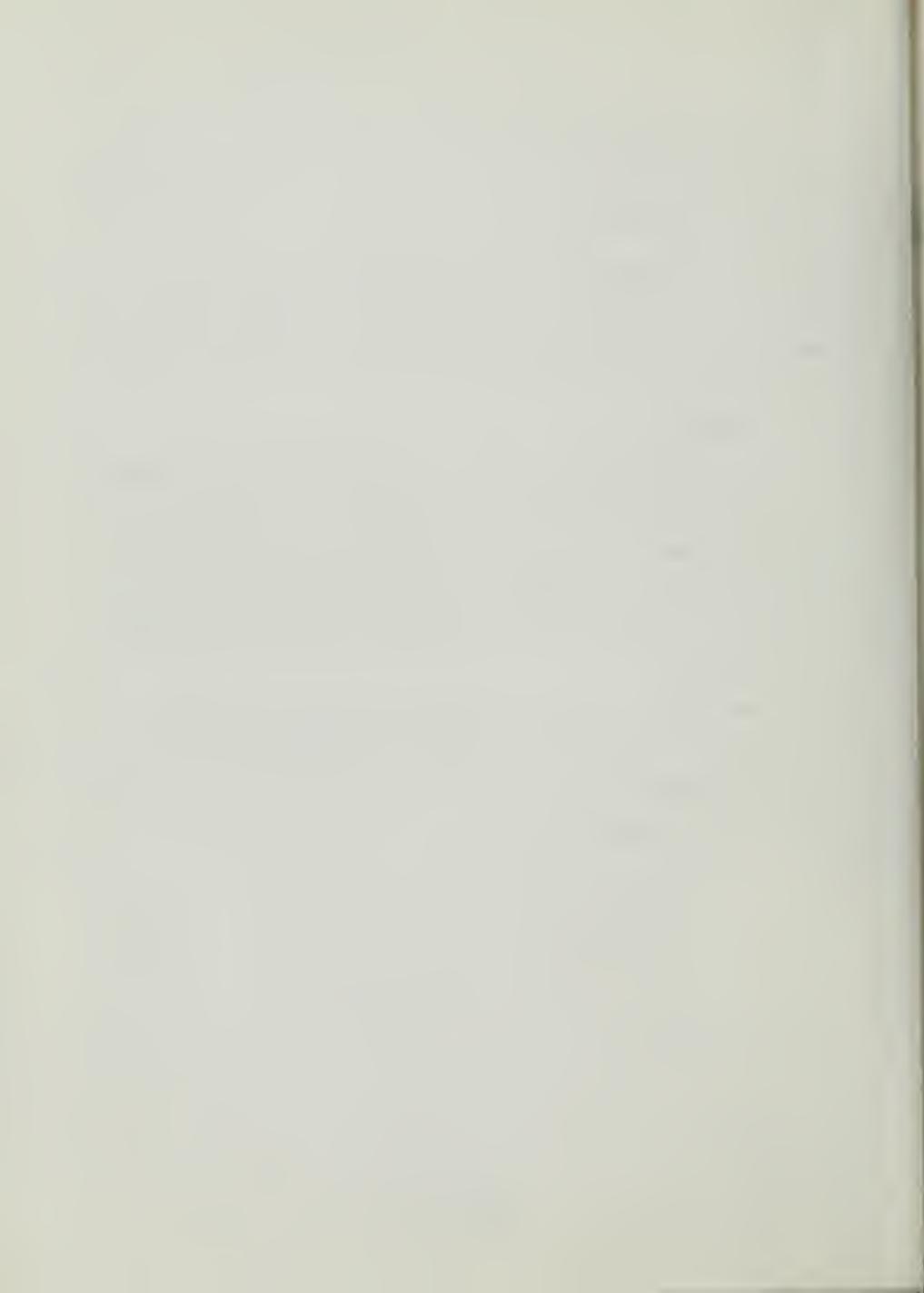


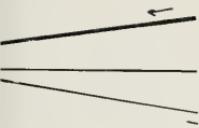
The major conflict in land use is the sawmill located within the city limits, and close enough to a residential area to cause inconveniences from noise, smoke etc. Other areas that may be considered conflicting land use are such areas as Mann's old garage in a residential area, Kahoes garage, and Bill Moores work shop in areas more suitable for residential purposes.

3. Drummond

The existing land use for the town of Drummond is shown on the map on the following page. There are a few vacant lots in the residential portion of the townsite that are suitable for residential development. In the business part of town or along Front Street there are several vacant lots suitable for development.

There does not appear to be any conflict in land use in Drummond unless the residences in tracts K and L of the Col. Morse Addition are a conflicting use, since this area is in a flood plain.





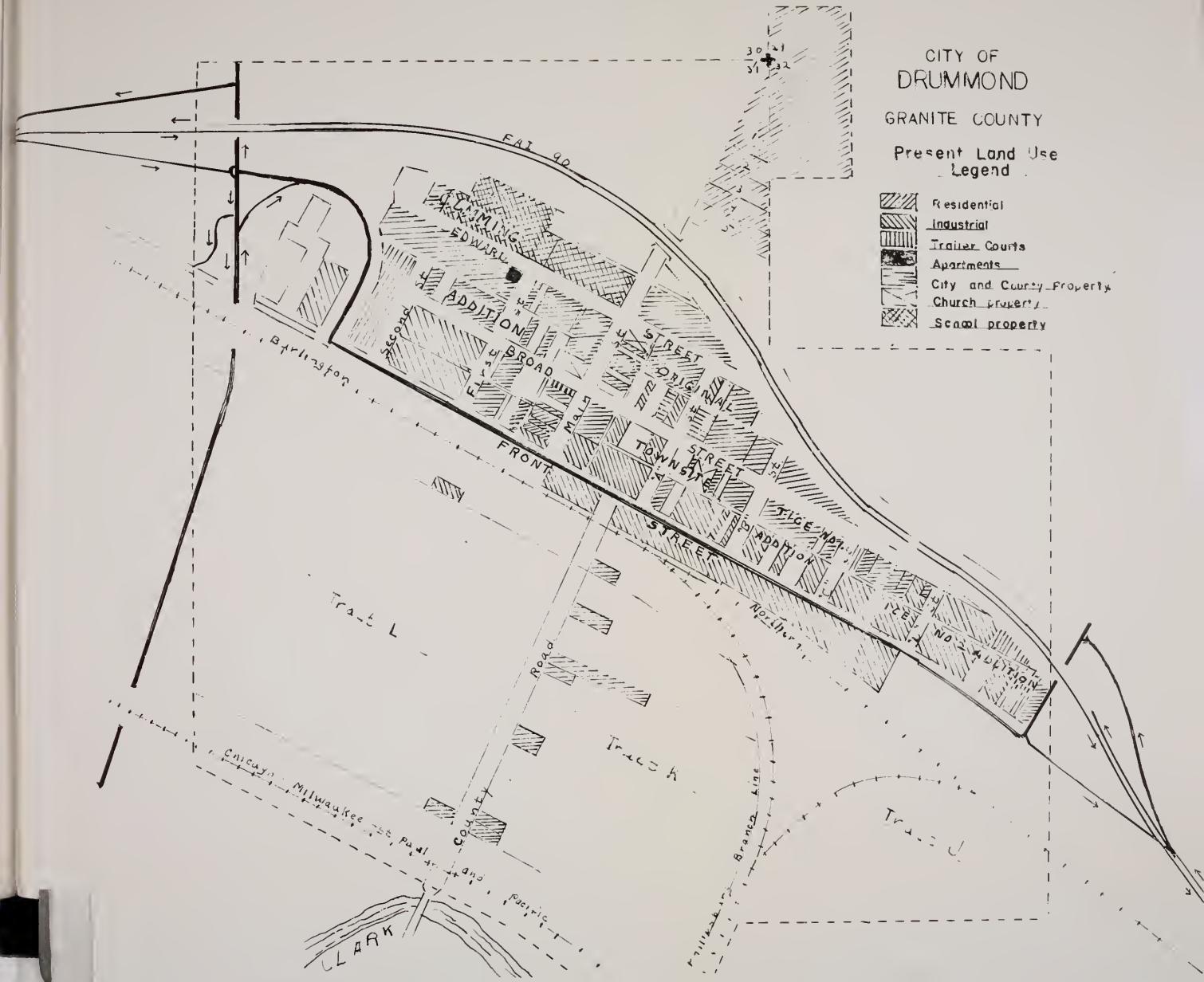
intend to convert it to grazing land.

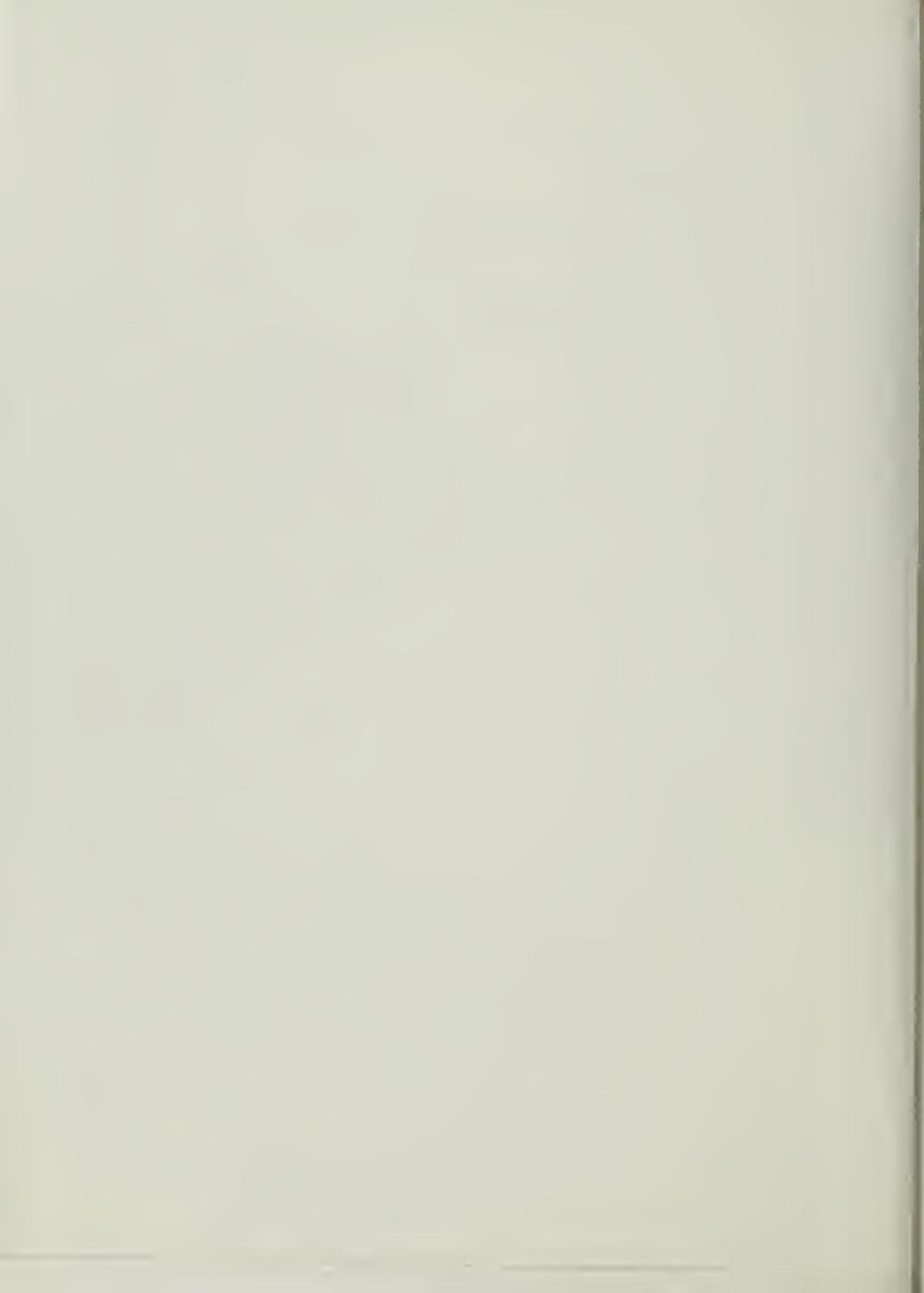


CITY OF
DRUMMOND
GRANITE COUNTY

Present Land Use
Legend

Residential
Industrial
Trailer Courts
Apartments
City and County Property
Church Property
School property





C. FUTURE LAND-USE

1. General

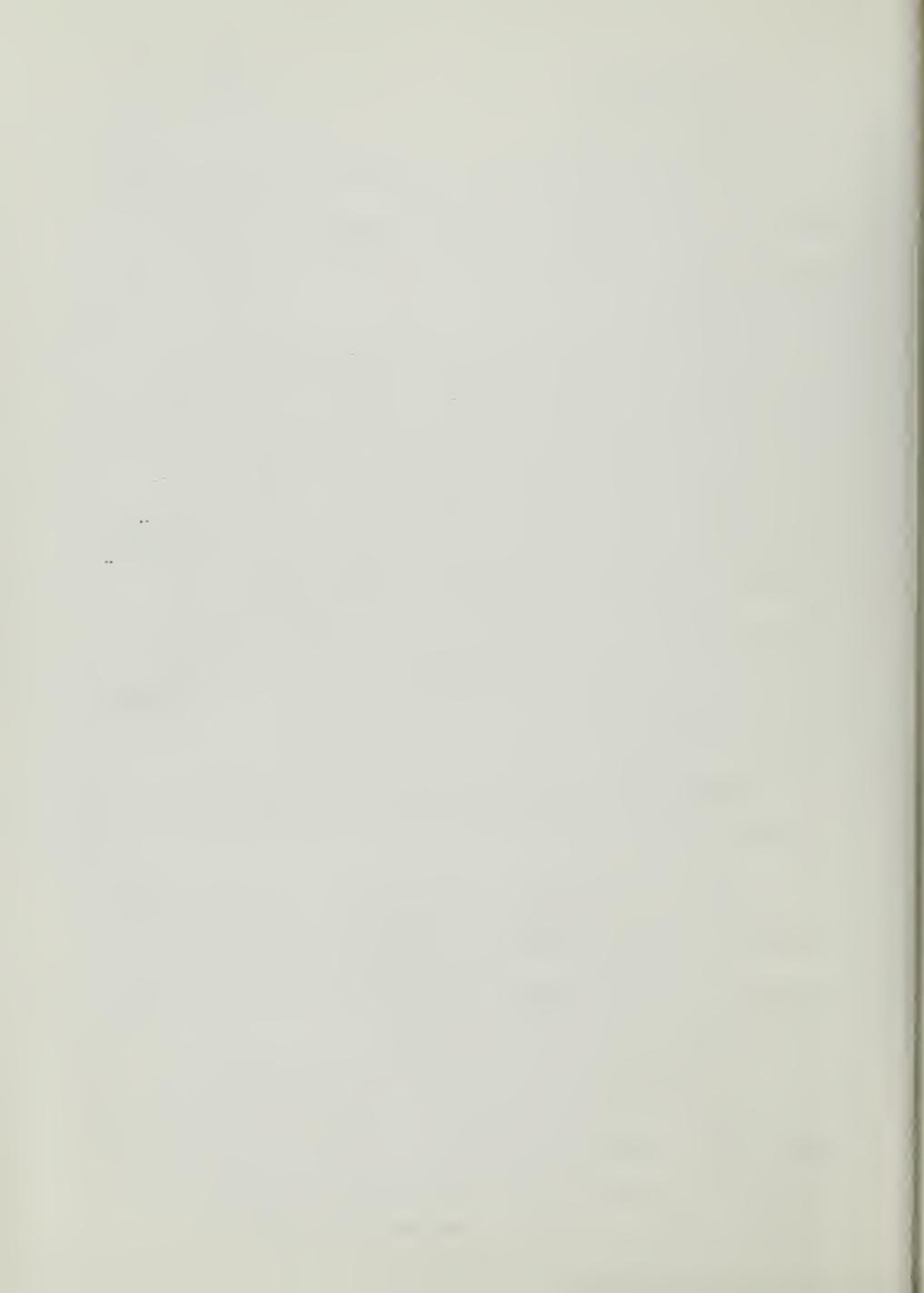
The general land-use in the county will stay much the same as it is presently. The major changes will be from agricultural to rural tracts used for rural living or as a recreational site.

Areas that could foster this type of development usually have some good recreational opportunities. There will definately be some further development in lower Rock Creek. Upper Willow Creek has some land development activity which will continue. Boulder Creek has not had much activity yet, but is an area that has all the potential of being developed for recreational subdivisions. Bear Creek has good possibilities for development if the purchaser likes hunting and snowmobiling. There is one subdivision presently being reviewed in that area. The Georgetown Lake area will continue to be developed.

There could be mining development taking place in areas like Black Pine, Garnet, Maxville, Henderson, and etc.

Much of the wildland grazing land of the county, both private and public is producing considerably below its potential. Better range management would be benificial to the individual as well as the county.

The logging and timber industry on private lands in the county will taper off from its present high level. Much of the private land has been logged to the extent that it will be several decades before another crop can be harvested. Some of the timber land has been logged with the intent to convert it to grazing land.



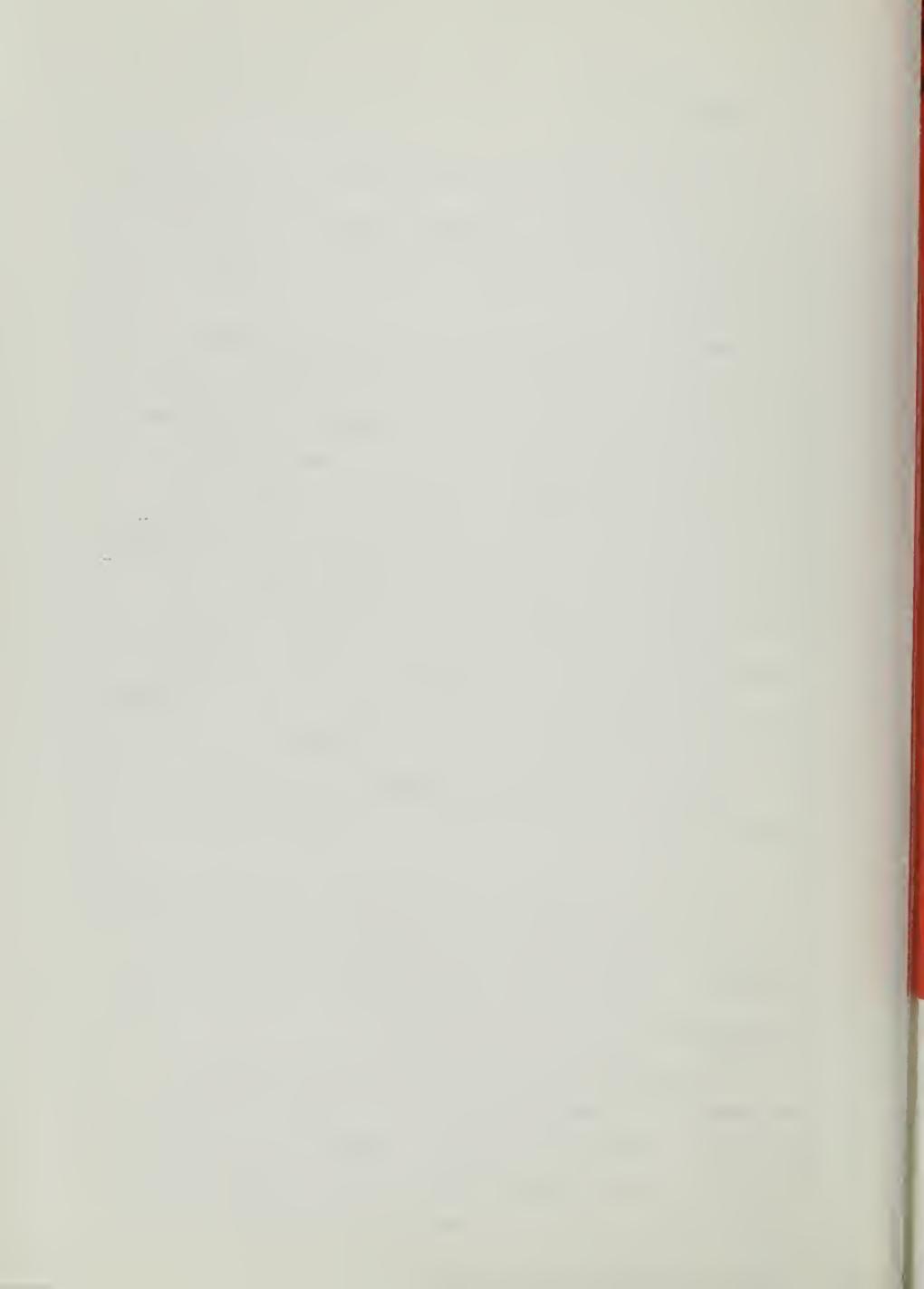
PHILIPSBURG, MONTANA



PROPOSED LAND USE

LEGEND

- Residential
- Commercial
- Schools
- City and County
- Parks and Playgrounds
- Churches
- Unsuitable



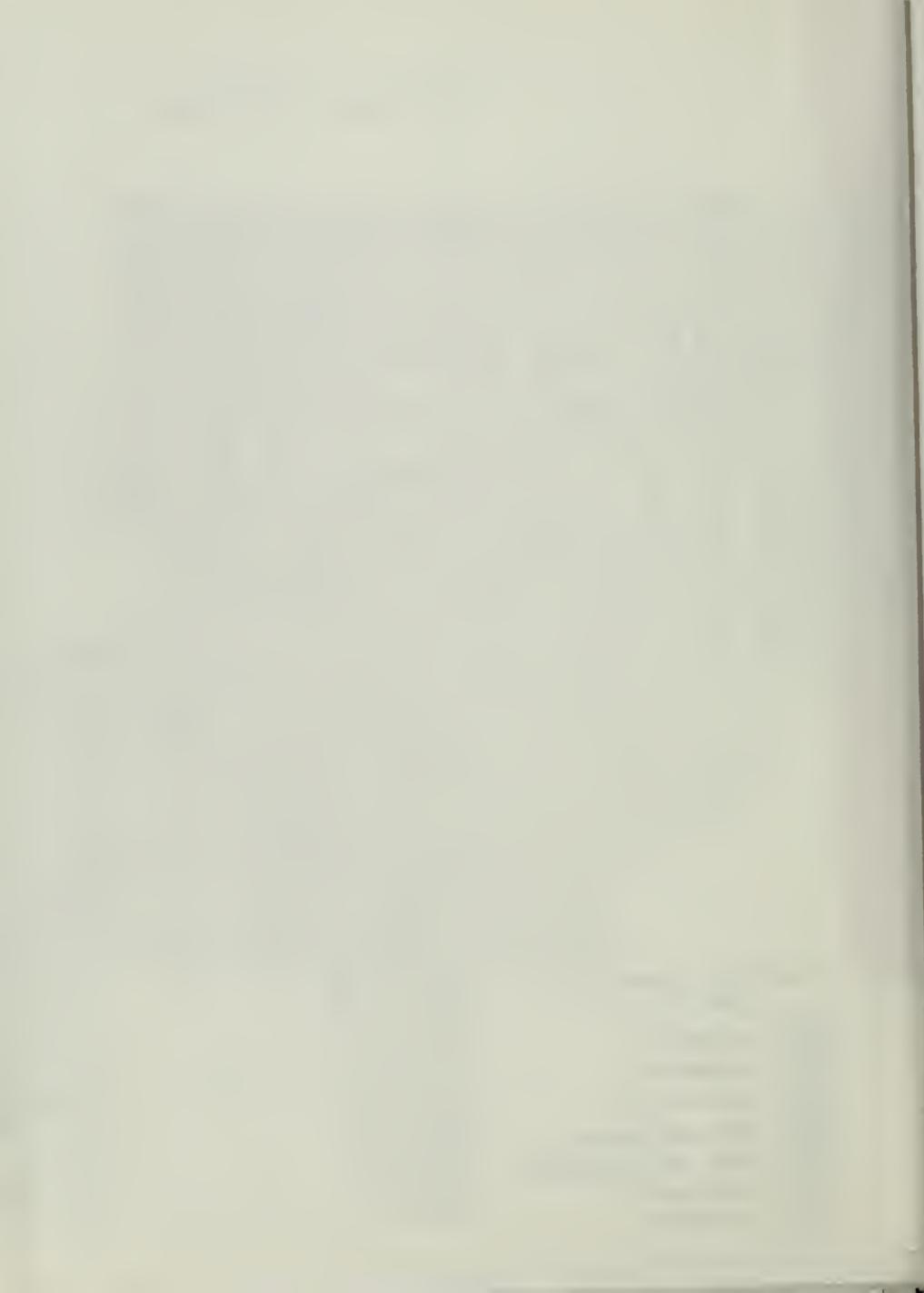
PHILIPSBURG, MONTANA



PROPOSED LAND USE

LEGEND

Residential
Commercial
Schools
City and County
Parks and Playgrounds
Churches
Unsuitable



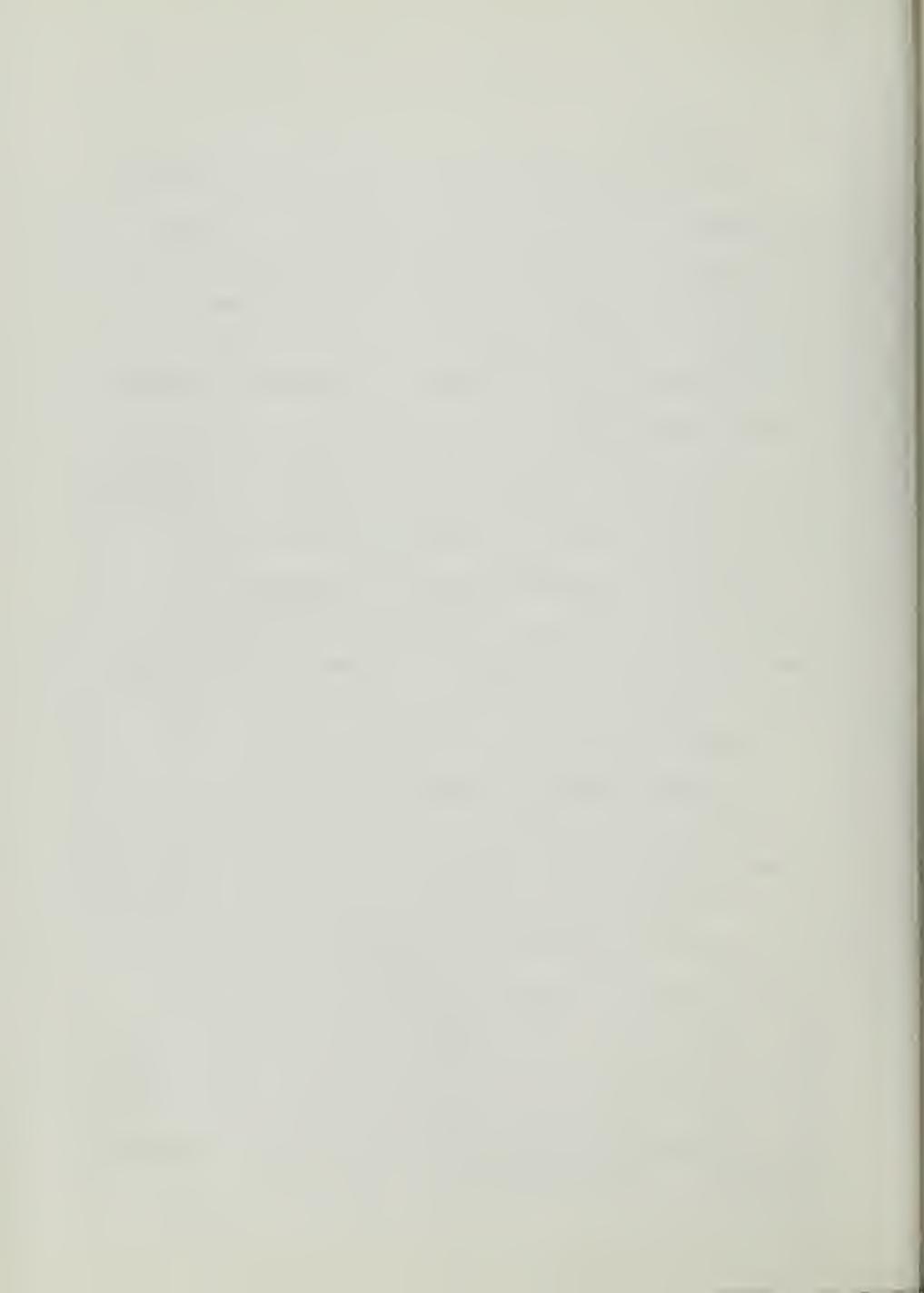
2. Philipsburg

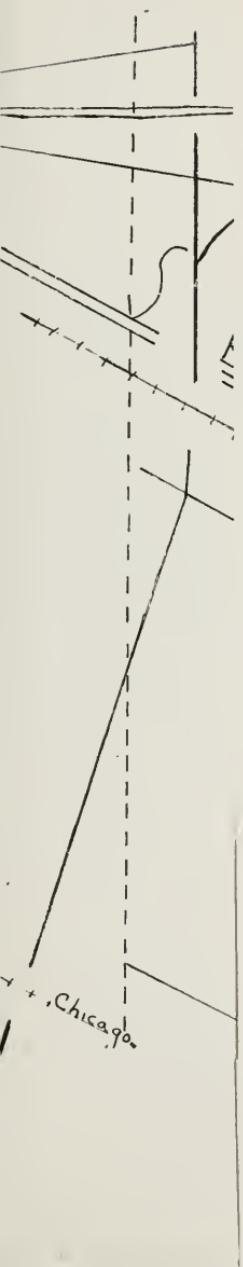
The map on the opposite page is the proposed land use development for the townsite of Philipsburg. This shows the land within the townsite that is not suitable for development due to steepness of slope. The land shown as residential areas also includes areas favorable for trailer and mobile home sites. The area in the commercial category includes light industry, such as repair shops, filling stations, or any industry that does not interfere with adjacent residential areas. Industries such as sawmills, concentrators etc. should be located some distance from the townsite.

There is considerable undeveloped land within the corporate city limits that is suitable for development. Some of this has been surveyed into blocks and lots. Other lands are parts of mining claims, and there is also some land classified as agricultural within the city.

At present, there are several streets in use in the city that are going diagonally across lots and blocks instead of being on the platted location. In the future, these streets should be either located properly, or lots should be surveyed and re-platted to conform with the present street location. Future development of areas that have not been surveyed into blocks or lots street location, should conform to the contour of the land and blocks and lots laid out accordingly.

With proper planning, there should be sufficient suitable land within the city limits to take care of considerable increases in city population.

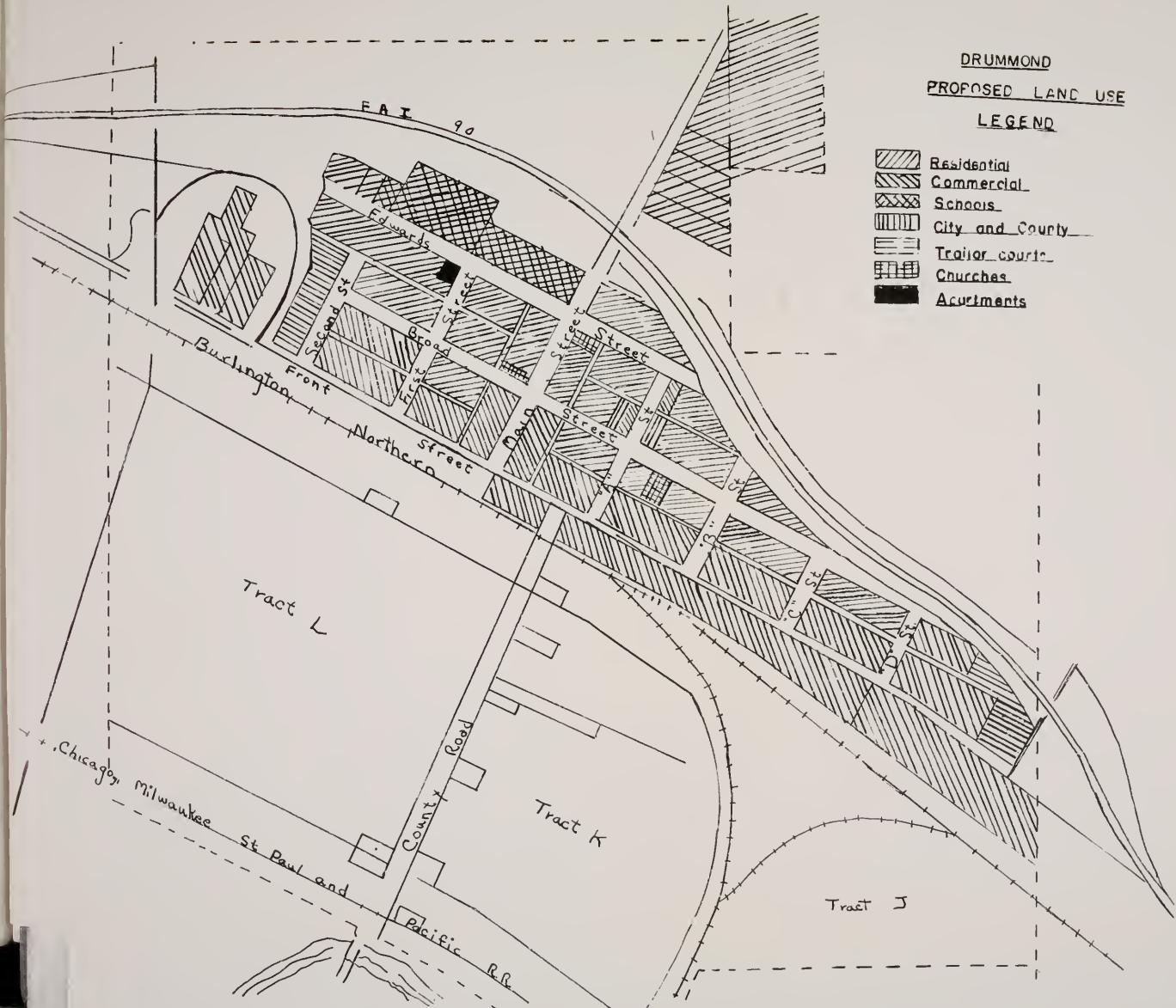






DRUMMOND
PROPOSED LAND USE
LEGEND

Residential
Commercial
Schools
City and County
Traffic courts
Churches
Acrements





The general appearance of Philipsburg could be considerably improved by tearing down the old abandoned shacks and sheds that are of no future value. Some of these have enough old weathered lumber that the salvage value will pay for tearing down and clean-up. Planting of trees and shrubs in some of the areas unsuitable for development, such as portions of the school hill, would improve the appearance of the city.

3. Drummond

The map on the opposite page shows the proposed land use for Drummond.

There are only a few vacant areas large enough to build on in the portion of Drummond north of the Burlington Northern Railroad. There are also a few good building sites that at present are occupied by old abandoned buildings. The industrial portion of this area is not fully utilized at present as there are vacant buildings and vacant lots. If the present industrial portion of Drummond was fully utilized, it could take care of considerable expansion. The area designated as residential, could also absorb a limited increase in population.

There is considerable area for expansion in the tracts designated J, K, & L. on the map. This area, however, is low, with a high water table. In order to develop an area like this and abide by the State Health and Safety laws, it will be necessary to have a municipal water and sewer system. In addition to this, building requirements are more stringent in such areas, which will make development more costly.

There are suitable building sites outside of the town of Drummond, in the vicinity of the Firestone Subdivision and south. These areas are adjacent to Highway 10A, and some of the land is not prime agricultural land.

XIII. CAPITAL IMPROVEMENTS PROGRAMMING, AN INTRODUCTION

Purpose

The major purpose of capital improvements programming is to obtain an orderly scheduling and assignment of priorities for capital investments which will be made over the next few years. Most communities project the capital improvements program for six years and the first year of the program becomes the current capital budget. Capital improvement programming coordinates public projects and is a useful tool for carrying out the Comprehensive Plan. It closes the gap between fiscal and physical planning. Among the specific advantages of the capital improvements program are the following:

1. It requires an annual review of local needs and an estimate of resources available to satisfy them.
2. It provides a forecast of long term demands on the local tax revenues and borrowing power.
3. It can result in a more stable tax rate.
4. It can facilitate efficient use of local manpower and equipment both in the planning and construction stages of projects.
5. It can make possible the purchase of public sites at substantially lower cost in advance of subdivision or improvement.
6. It can afford an opportunity for private investors, public utilities, business and industry to coordinate their development programs with those of government.
7. It can protect governmental legislative bodies from the pressure of special interest groups and insure that public facilities are provided where needs are greatest and justification is strongest.
8. It can allow local government to secure the maximum value from its capital investments.

Suggested Capital Improvement Program

Some of the elected officials of Granite County listed various projects they felt needed to be accomplished in Granite County. The Planning Board then compiled this list. At one of the Planning Board meetings the members present set priorities for these improvements, as listed below.

Suggested Improvement	Accomplishment Date
	1975-80 1981-85 1986-90
1. Replace Anderson bridge on Rock Creek (present bridge is a temporary structure and not adequate for heavy loads)	X
2. Construct new county shop at Philipsburg (present shop not adequate for the needs)	X
3. Provide for a conference room at the courthouse (present commissioners office inadequate for size, and courtroom not suitable)	X
4. Revise County Hospital and add nursing home.	X
5. Provide for county health nurse's office in Drummond (at present the county nurse has no place to meet people in the north end of the county)	X
6. Construct new grade school building in Drummond (present building old and needs remodeling or replacing)	X
7. Extend Sewage System in Drummond to include residences in Edwards Gulch. (at present these residences have individual wells and individual septic tanks)	X

Suggested Improvement Cont'd

Accomplishment Date Cont'd
1975-80 1981-85 1986-90

8. Provide for a source of water in Drummond that is sufficient for fire control purposes.

X

9. Upgrade solid waste disposal system for the county and Philipsburg and Drummond to comply with state and Federal requirements.

X

10. Form fire control districts in Lower Rock Creek and at Georgetown Lake, and help provide fire equipment.

X

Road Betterment

1. Helmville road - widen portion and upgrade.

X

2. Granite County portion of road along south side of Georgetown Lake (needs widening and paving)

X

3. Echo lake road and Discovery Basin road (Echo lake road needs widening from county line to Jct. with Discovery Basin road (present condition unsafe- Discovery Basin needs portions widened)

X

4. Rock Creek road from Gillies Bridge to Hogback (needs portions widened and turnpiked-portions at present are too narrow to allow passing and no drainage built into the road)

X

5. Lower Rock Creek road from Ranch Creek to Missoula Co. line (needs additional turn outs for safety) (needs off road parking areas provided for public use)

X

6. Poison patch road (road from Jct. with Henderson road to South Fork of Willow Creek road, also portion of road from Poison Patch road west to Willow Creek (needs drainage and gravel- unuseable at present if cloudy in the west)

X

Suggested Improvement Cont'd

Accomplishment Date Cont'd
1975-80 1981-85 1986-90

7. Moose Lake road-from Jct. with Copper Creek road south through private land at above Moose Lake (needs portions of section from Copper Creek to private land at Moose Lake widened) Needs portion thru private land relocated and reconstructed. The Forest Service have acquired a road right-of-way easement through the private land. If this road is not built by Sept. 1974, the easement is cancelled. X

It is recommended that the local governments consider preparing a capital improvements study.

Capital improvements represent a sizeable dollar amount within the planning area and an improvements plan would necessitate broad based input using citizens' groups, all governmental departments, and the Planning Board.

XIV. ACTION PLAN

Granite County is fortunate in that it lies in a beautiful setting and as yet is unspoiled by over-development. As beautiful and unspoiled as it is, it is not without its problems. Some of the problems are products of setting and topography which can't be affected by action in the county. However, many existing problems can be solved and future problems avoided by diligent planning efforts. It is the purpose of this action program to identify and propose solutions to problems that can be affected by local action.

Although the projections for Granite County do not indicate much of a population change, there is increasing pressure to subdivide land into recreational units. There is a great benefit, having an active planning board to work with subdivision problems that may develop.

The primary responsibility of the Planning Board is in planning and regulating land uses. Additional duties of the board include socio-economic planning. Much influence can be wielded by the board, and it is the responsibility of the board to squarely face and propose solutions to these problems.

A. POPULATION AND ECONOMY

PROBLEM

The population in Granite County decreased 9.2 percent between 1960 and 1970. While this is indicative of a declining economy, the main problem is that in the same period there was a 10 percent increase in the people over 55, and a 13 percent decrease in the people between the ages of 20 and 54. This shows a decrease in the principle wage earners and an increase in the people of retirement age. This in turn places a larger tax

burden on the remaining wage earners.

The decline in the population of the wage earner is the result of the county's economy being unable to support its own residents. This is especially true of the better qualified higher educated portion, that move out of the county for the higher paying positions.

RECOMMENDATIONS

Encourage development of industries that are not detrimental to the environment. Encourage industries such as the timber industry to more fully utilize and make finished products of the portions of the resource that at present is being wasted.

Make plans for more county benefits to be derived from the recreations potential of the county, such as development of facilities within the county in connection with Discovery Basin Ski Complex.

Do not discourage other industries such as mining and milling, but work for better controls to minimize pollution etc.

B. LAND OWNERSHIP

PROBLEM

58.6 percent of Granite County is in public ownership, which is managed by the U.S. Forest Service and B.L.M. The Burlington-Northern Railroad; Champion International and the State of Montana own 4.8 percent of the land. This leaves 36.7 percent to other small private ownership. All the above agencies and companies have planning efforts that are in the

development stages at this time. Since this is a county wide comprehensive plan, it will be necessary to coordinate all plans.

RECOMMENDATIONS

It is in the best interest of the County Planning Board to be informed of future plans for land owner by the larger companies and land administered by state and federal agencies. A periodic meeting schedule should be established whereby the planning efforts of each principal organization can be discussed and information exchanged.

PROBLEM

Portions within the incorporated boundary of Philipsburg are made up of patented mining claims and mill sites, parts of some of these have been sold for building sites and have improvements on them. These sites have been sold by M & B surveys and no plats have been made to designate ownership. This presents problems in planning for future development, transfer of property etc. There is also a problem in Philipsburg of roads or streets having been established thru use, that diagonally cross lots and do not follow the intended street or avenue locations.

RECOMMENDATIONS

Revise and up-date the map of Philipsburg to show divisions and ownership of mining claims within city limits.

Work towards establishing streets and avenues on their proper location, or where this is not feasible, re-design lots to conform with the present street location.

C. TRANSPORTATION

PROBLEM

Granite County has transportation problems common to many rural areas: low population and long travel distances, with insufficient tax base to support a sophisticated travel network. Another factor that adds considerably to this problem is the heavy seasonal non-resident use of some roads that adds considerably to the standard of road needed and the maintenance cost. This cost is added county cost.

RECOMMENDATION

Compile available data on non resident travel. Where this is a major factor try to obtain state or federal aid.

PROBLEM

There are some roads and bridges within the county that ownership and maintenance responsibility is not clearly defined.

RECOMMENDATION

Where possible through checking records and documents establish ownership and responsibility. Where no records exist establish responsibility through other means.

PROBLEM

The summer home and recreational development in the Georgetown Lake Basin is continuing at a rapid rate. The use of some of the present roads that serve portions of the area are detrimental to the land and other resources of the area.

RECOMMENDATIONS

A transportation plan to adequately serve the area should be prepared and initiated. This is to be the cooperative effort of both Deer Lodge and Granite County, Forest Service, Anaconda Company, State Highway Department and local residents.

D. PUBLIC AND COMMUNITY FACILITIES

MEDICAL FACILITIES

PROBLEM

The present small population and limited economy of the county, and the availability of better equipped medical facilities within a short distance makes it difficult if not impossible to operate the county hospital on a paying basis.

RECOMMENDATIONS

Continue efforts to convert and expand the present facility into a nursing home for senior citizens.

SOLID WASTE

PROBLEM

The low population density and the pattern of the inhabited areas make it difficult to finance solid waste disposal sites that comply with state and federal regulations.

RECOMMENDATIONS

Establish a task force of local citizens and local public officials to study and evaluate alternative methods of solid waste disposal, including possible relaxation of state and federal requirements for rural areas.

FIRE AND POLICE PROTECTION

PROBLEM

The housing developments in lower Rock Creek and in the Georgetown Lake Basin area have reached a point where some form of rural fire protection is needed to combat structural fires. Both these areas are too remote for any benefit from existing equipment now serving other rural areas of the county.

RECOMMENDATIONS

Instigate the forming of rural fire districts in both these areas.

PROBLEM

Due to the location and distance of lower Rock Creek from other parts of the county it is difficult to provide adequate police protection for this area during the summer with the regular county officers.

RECOMMENDATIONS

Try to work out a cooperative system with the Forest Service which would provide some police powers in conjunction with the fire protection now being maintained by the Forest Service.

E. RECREATION

PROBLEM

Heavy concentration of recreationalists in readily accessible water oriented areas such as Georgetown Lake cause such as; 1)conflicting uses of the lake between fishermen and

water skiers, 2) concentrated use in unimproved areas where sanitary facilities are inadequate or do not comply with health and safety requirements; and 3) damage to the resources by off road travel of motorcycles and other vehicles.

RECOMMENDATIONS

Granite and Deer Lodge counties work with the Forest Service, Fish and Game Department, Anaconda Company, Summer Home Associations, Sportsman's groups, and others, to determine solutions to the problems.

PROBLEMS

Conflict between land owners and recreationalists.

Much of this is caused by a small minority leaving gates open, damaging pastures and crops; by off road vehicle travel, malicious acts of killing livestock, vandalism and theft. This is causing additional land to be posted and loss of recreational areas to the public.

RECOMMENDATIONS

Work for continued education by the Fish and Game Department and other agencies and groups to better acquaint the public to the consequences of their acts.

Stronger law enforcement and heavier penalties to convicted offenders.

F. HOUSING

PROBLEM

The housing condition survey made in Philipsburg

shows 48.8 percent of the single family residences to be either deteriorating or sub-standard. There are also many of the old commercial buildings in a deteriorating state.

RECOMMENDATIONS

City council and civic organizations keep working toward elimination of buildings that are beyond repair. Encourage new development and provide information on new methods of finance. Visit with developers to encourage building of rental housing or Planned Unit Development. Work with the commissioners to set up a housing authority to get housing for the elderly.

G. LAND USE

PROBLEM

In the past there was insufficient guidelines furnished by the state and a lack of expertise by the local governing bodies of suitability of lands and other requirements for rural subdivisions. Considerable building had been done in many areas without any subdivision plats having been filed. This has resulted in subdivisions having been approved in locations that under the present standards are unsuitable, or where special restrictions should be required prior to any development. Besides possible health and safety problems, problems have developed in transportation, such as keeping roads open for winter use in remote areas, etc.

RECOMMENDATIONS

Have county health and sanitary officer work closely

with land owners, to obtain best possible compliance with regulations. Where possible discourage building in areas of flood plain, or high water table or other hazards.

In the future the planning board and local government should be critical in approval of subdivisions where the economy of the county does not benefit by the change in land use. Approve only subdivisions where the change in land use is not detrimental to the environment or to health and safety of the public.

PROBLEM

A problem is developing in Granite County where division of economic ranching units are being divided into smaller ownership, which are still being taxed as agricultural land, but no longer used as agricultural units. This is reducing the number of livestock and in turn reducing the tax base.

RECOMMENDATION

Work for legislation that will prevent taking good agricultural land out of production.

Complete a survey of the land in the county that is suitable for housing development and would have the least impact on agricultural production.

XV. IMPLEMENTATION

Implementation is the most difficult part of any plan. The written document does not solve any problems, but it does point out those areas that need attention and which can be solved. Background on the reasoning process and areas of concern other than those that have been specifically addressed are contained in this report, and these can be added to the Action Plan if desired by the County.

It has been an underlying theory of this study to concentrate on those areas that can be approached by the county, immediately. It is felt that chances for implementation are better if a few specific recommendations are made, rather than many vague recommendations. Achievement of goals is a strong motivator in management theory. As the Planning Board solves the problems outlined in the Action Plan, the Board will have the confidence to take on more complex problems with the knowledge that something can be done. If the county embarks on the Action Program and adopts the Comprehensive Plan, the recommended proposals will be sufficient to keep the Planning Board busy for some time.

The primary tools for implementing this plan are by implementing the Action Program, adopting subdivision regulations, and developing a capital improvements program.

A. ACTION PLAN

Implementation of the Action Plan is dependent on action by the Planning Board and other citizen groups. It is suggested that the Planning Board review the Action Plan,

decide which of the recommendations are the most important, decide whether the problem should be handled by the Planning Board, or referred to a citizens group, then begin action on the problem.

B. SUBDIVISION REGULATIONS

The state law requires all counties in Montana to adopt subdivision regulations by July 1, 1974, or the State Department of Planning and Economic Development will promulgate subdivision regulations that will be enforced by the local governing bodies.

The Granite County Planning Board has prepared a set of proposed subdivision regulations that cover the entire county. The same regulations also for the City of Philipsburg and the town of Drummond. Public hearings will be held at Philipsburg and Drummond to present the regulations to the public. If they are approved by the public, the Granite County Planning Board recommends that the County Commissioners adopt the regulations.

C. ZONING

Zoning may be a valuable tool in carrying out land use policies in the county. Zoning is a restriction on the use of land (as opposed to subdivision regulations which affect the division of land and not necessarily the uses.) If zoning is adopted, care must be taken so that the zoning regulations are properly applied.

There are limitations to the application of zoning such as the inability to correct past mistakes by prohibiting the

existing use, and it does not apply to public lands. These restrictions protect the property owner and the public, and it should not be interpreted that desired land use can be immediately accomplished with zoning. Zoning could, however, protect such areas as historic areas against encroachment.

The Granite County Planning Board has not written any Zoning regulations at this time. Zoning regulations may be considered in the future if the subdivision regulations and other legislation such as the Greenbelt law, does not adequately control the uses of land.

D. CAPITAL IMPROVEMENT PROGRAM

A capital improvements program is a program for capital expenditures. The basic parts of a capital improvements program are the project priority portion, and the revenue and finance portions. The revenue and finance portions is a problem for local areas, as it is difficult to predict what revenue sharing funds may be available.

Capital improvement programs are beneficial in that the capital improvements needed in a county are on a priority basis, and the project with the greatest benefit are scheduled first. This is very important in a county such as Granite County where funds are limited, and maximum use must be obtained from local expenditures.

E. CONTINUING PLANNING

Planning is not a static process. As certain goals are

obtained, or as conditions change within the county, the Action Program and Comprehensive Plan must be revised. Although this document presents background material, recommendations and suggestions to implement the plan, it is not the most important factor. The most important factor is that Granite County has an organized and operating County-City Planning Board. The Board is and will be an important factor in determining the future of the county. The Board must recognize this and proceed cautiously and wisely.

